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Part VI

Environmental Protection Agency

Friable Asbestos-Containing Materials in Schools; Proposed Identification and Notification

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 763

[OPTS 61004; FRL 1594-5]

Friable Asbestos-Containing Materials in Schools; Proposed Identification and Notification

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA proposes this rule to reduce risks of exposure to asbestos-containing materials in school buildings. The proposed rule would require all public and private elementary and secondary schools in the United States to identify friable asbestos-containing materials in school buildings. School officials would be required to identify friable asbestos-containing material by inspecting all areas of school buildings for friable materials, taking samples of them, and having the samples analyzed for their asbestos content in accordance with analytical protocols for Polarized Light Microscopy. The analysis may be supplemented by X-ray Diffraction where necessary.

EPA proposes that school officials be required to record the location of friable materials in the files of the school. School officials also would be required to notify employees of the location of the friable materials which contain asbestos, provide the employees with instructions on reducing exposures to asbestos, and notify the parent-teacher association for the school of the results of the inspection. All schools must retain records of any inspection, sampling, and analysis conducted pursuant to this regulation.

A school will be exempt from any procedures in the regulation which the school has already completed on its own, in conjunction with EPA's Technical Assistance Program, or in a comparable State program.

EPA has closely coordinated this proposed rule with the proposed regulations of the Education Department (ED) under the Asbestos School Hazard Detection and Control Act of 1980 (Pub. L. 96-270). ED's regulations appear elsewhere in today's edition of the **Federal Register.**

EPA is issuing this rule under the authority of section 6(a)(3) of the Toxic Substances Control Act (TSCA), 15 U.S.C. 2605.

DATES: Written comments on this proposed rule should be submitted on or before 5 p.m., E.D.T., November 3, 1980.

EPA will commence an informal public hearing at 9 a.m., November 17, 1980. Persons who wish to participate in this hearing should submit written requests postmarked no later than three weeks before the hearing. For further details on the time limits and other procedural requirements which pertain to the hearing, see Section VI of this document. Persons wishing to submit reply comments must submit them no later than 2 weeks after the close of all informal hearings on the proposed rule (see Section VI of this preamble for a discussion of reply comments). EPA tentatively plans to promulgate a final regulation by February 1981.

ADDRESSES: Written comments should bear the document control number OPTS 61004 and be submitted to: Ms. Joni Repasch, Document Control Officer (TS-793), Room E-447, Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

All timely comments shall be placed in the public record which is located at the same address and is open to the public from 8 a.m. to 4 p.m., Monday through Friday, except legal holidays.

EPA will hold the informal public hearing in the Humphrey Building auditorium, first floor, 200 Independence Avenue SW., Washington, D.C.

Requests to participate in the informal public hearing should be submitted to: Gordon McCurdy, Office of Pesticides and Toxic Substances (TS-974), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT: Larry Longanecker, Office of Pesticides and Toxic Substances (TS-794), Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460, (202-755-6660).

SUPPLEMENTARY INFORMATION:

I. Introduction

This regulatory program is the product of an extensive investigation into the problems associated with asbestos in schools and represents EPA's determination of the best method to reduce the risks of exposure to asbestos in schools. In making this determination the EPA has solicited information and assistance from a wide range of sources, including other Federal agencies, State and local personnel, school officials, interested citizens, industry representatives, and environmental and public interest organizations. In particular, a number of States and municipalities which have conducted asbestos abatement programs in schools have generously provided EPA with valuable first-hand experience and other information. EPA encourages the continued participation of interested parties and solicits comments on all aspects of this proposed rule.

A. Background

"Asbestos" refers to a group of hydrated mineral silicates which readily separate into fibers. These fibers are incombustible, possess high tensile strength, and exhibit good thermal and acoustical insulation properties.

The health effects of exposure to asbestos fibers are well documented and serious. The link between occupational exposure to asbestos and lung disease was first reported in 1927. Since World II, many researchers have investigated the carcinogenic properties of asbestos. These investigations have produced extensive epidemiologic and experimental data showing that exposure to asbestos via inhalation increases the risk of numerous diseases, among which are asbestosis (a non-carcerous lung disease), pleural and peritoneal mesothelioma (rare forms of cancer), and cancers of the lung and other organs. For a more detailed review of the health effects of asbestos, see section III-A of this document, entitled "Health Effects," and the "Technical Support Document for Regulatory Action Against Friable Asbestos-Containing Materials in School Buildings" [hereinafter "Technical Support Document" or TSD], which is in the rulemaking record.

Asbestos-containing materials have been widely used for fireproofing, thermal and acoustical insulation, and decoration in building construction and renovation. The asbestos content of these materials, varies from trace amounts to almost 100%. These materials were usually applied by spraying, but have also been trowelled onto overhead surfaces, steel beams, ceilings, walls, furnaces, and pipes.

The potential for release of asbestos fibers from asbestos-containing materials depends in part upon the types of material which contain the asbestos fiber. Soft, crumbly materials tend to release fibers more easily than do hard, cementitious materials. This regulation addresses friable materials, which are defined as all materials that when dry may be crumbled, pulverized, or reduced to powder by hand pressure.

Asbestos fibers are extremely durable, and their size and shape permit them to remain airborne for long periods of time. Fibers become suspended in the air by direct disturbance of the friable asbestos-containing materials, which causes the material to release fibers, and by resuspension of previously released fibers that have settled onto floors and other surfaces within a building. Resuspension of asbestos fibers that have settled may result from many different activities, including

dusting, sweeping, vacuuming, and other activities in the vicinity of the settled fibers. This process of release and resuspension of asbestos fibers results in continued dispersal of asbestos fibers throughout the building and increases the likelihood that individuals within the building will inhale them.

On September 18, 1978, the Honorable Brendan T. Byrne, Governor of New Jersey, filed a citizen's petition under section 21 of TSCA, 15 U.S.C. 2620, requesting EPA to regulate asbestos in buildings under TSCA. On December 21, 1978, the Environmental Defense Fund (EDF) also filed a petition requesting EPA to regulate asbestos in schools.

The Administrator denied these petitions on the ground that EPA was developing a major Technical Assistance Program [hereinafter TAP] to identify and correct asbestos problems in schools and that regulatory action under section 6 of TSCA was inappropriate until EPA could assess the success of the program. EPA stated, however, that its decision to forego regulation at that time would not rule out later regulatory action, and that it would reevaluate the need for regulation at a later date. For further details on these petitions and their denial, see the **Federal Register** of April 4, 1979 (44 FR 20295) and May 9, 1979 (44 FR 27257).

The EDF filed suit in the District Court for the District of Columbia to compel EPA to initiate rulemaking. *Environmental Defense Fund vs. Douglas M. Costle, et al.*, C.A. No. 79–1360, May 18, 1979. On July 6, 1979, the Acting Administrator announced that EPA has reconsidered the issue of rulemaking and had decided to grant the petitions of the Environmental Defense Fund and the State of New Jersey. Accordingly, EPA issued an Advance Notice of Proposed Rulemaking (ANPRM) for Asbestos-Containing Materials in Schools in the September 20, 1979 issue of the **Federal Register** (44 FR 54676). For a detailed description of the TAP and for additional background information on this rulemaking, interested persons should refer to the discussion in this ANPRM.

B. Results of the Technical Assistance Program.

EPA's Technical Assistance Program [TAP] provided many States and school districts with guidance and technical information on asbestos abatement and encouraged schools to identify and remedy their asbestos problems. More than half of the nation's schools have been inspected for friable materials, and have samples and analyzed such materials where they were found.

However, EPA has determined that not all schools have adequately inspected for and identified their potential asbestos problems. The asbestos coordinators within each of EPA's ten Regional offices, reports from several States and municipalities, and other sources of information generated by the TAP have indicated that many schools have not been adequately inspected for the presence of asbestos-containing friable materials.

Information on a number of State and county programs indicates that some of the schools which reported inspecting their buildings have followed procedures which are inadequate for identifying asbestos problems. One State, for example, inspected all school buildings and samples all friable materials, but analyzed the samples for only one type of asbestos.

Another State program relied entirely upon air sampling in school buildings to assess asbestos problems. As air sampling does not identify the content of bulk materials and may not reliably indicate the risk presented by the presence of friable asbestos-containing materials, the inspections and analyses conducted under the program were inadequate.

Still others have relied on building records or visual inspections alone to determine the presence of asbestos. Building records or visual inspections without bulk sample analysis do not provide an accurate method for identifying friable asbestos-containing materials.

In addition, many of the schools which have located friable asbestos-containing materials may not have notified their custodians and other employees of the location of these materials and of methods to reduce exposures. The notification requirement in this proposed rule is an important addition to the TAP and is an essential element in reducing peak exposures that may occur in the interim period before schools take final abatement actions.

Because possibly 40% of the schools have not yet taken steps to identify friable asbestos-containing materials, and because over 250,000 teachers and custodians may occupy contaminated schools with no adequate notice on protecting themselves and the 3,000,000 children in those schools, EPA has decided to forgo continued reliance upon the TAP and to proceed with rulemaking under section 6.

C. EPA's Regulatory Program

EPA is proceeding with its asbestos school regulatory program in two parts. This proposed identification and notification rule is the first part. Later in 1980 EPA intends to proceed with an assessment and abatement progam as the second part.

By splitting the program into two parts, EPA is able to begin the process of identifying asbestos in schools and avoid unnecessary delay. Promulgation of an abatement rule must await completion of EPA's investigation into a number of technical issues relating to corrective actions for friable asbestos-containing materials. EPA is proposing this identification rule now so that schools may begin the identification process, which will require up to nine months to complete because of the limited availability of analytic laboratories to analyze samples of asbestos and because of the practical time constraints under which schools operate. By the time schools complete this identification stage of their asbestos programs, EPA will have completed its technical investigations and will have proceeded with the second phase of the program, and schools will be prepared to commence abatement actions.

Furthermore, implementing this identification and notification rule without delay will enable schools to reduce risks of peak exposures which may occur in the near future by controlling the type of activities and maintenance practices in the vicinity of friable asbestos-containing materials, and by instructing maintenance personnel to avoid the materials altogether or minimize disturbances of them.

EPA emphasizes that these identification and notification requirements carry major implications for the health of school children and employees and for the costs of the overall program. Later abatement actions will rely on the results of inspection under this rule. An erroneous determination that certain friable materials contain asbestos may result in significant, unnecessary expenditures. Conversely, a determination that certain friable materials do not contain asbestos, when in fact they do, may result in failure to reduce serious risks to the children and employees who occupy the school. EPA therefore urges school officials to exercise care when inspecting and sampling friable materials.

D. The Proposed Rule

The proposed rule would require that proper steps be taken to identify friable asbestos-containing materials in schools. These steps are:

1. inspecting all areas in the school building which may have friable materials applied to walls, ceilings, pipes or building structural parts;

2. grouping friable materials that are similar in texture and appearance into "sampling areas" for the purpose of sampling and analysis;

3. taking at least 3 samples from each sampling area;

4. analyzing these samples using Polarized Light Microscopy, supplemented if necessary by X-ray Diffraction, as described in "Methods for the Determination of Asbestiform Minerals in Bulk Samples by Polarized Light Microscopy and by X-ray Powder Diffraction" a copy of which can be obtained by calling 800–424–9065 (in Washington, D.C., call 554,1404);

5. determining an estimated percent asbestos content for each sampling area by averaging all reported analyses for that area. The rule also requires documentation of these steps by maintaining records in the school.

The proposal contains three notification requirements. First, all schools must post a notice that inspection, and, if needed, sampling and analysis have been conducted. Second, in schools with friable asbestos-containing materials, officials must notify employees of methods to be used to avoid or reduce exposure to asbestos. Third, schools must also notify their parent-teacher association if friable asbestos-containing materials are found.

Officials of local education agencies are responsible for implementing these requirements. EPA encourages these officials to make use of all technical assistance which may be available from States, commercial laboratories, or contractors. Inspections, sampling and analyses conducted by States will satisfy the requirements of the rule insofar as the required procedures have been followed. School officials will not be required to repeat sampling and analyses which followed the guidelines set forth in EPA's "Asbestos-Containing Materials in Schools: A Guidance Document," copies of which are available from EPA by calling 800–424–9065 (in Washington, D.C., call 554–1404).

E. Federal Assistance

On May 16, 1980, the U.S. Congress passed the Asbestos School Hazard Detection and Control Act of 1980. The Act establishes as its primary purpose a Federal grant and loan program to assist local educational agencies in detecting and controlling asbestos hazards. Section 5 directs the Secretary of Education to establish a direct grant program to local educational agencies for 50% of the costs of detecting the presence of asbestos in schools. Similarly, section 6 of the Act directs the Secretary to administer a long term loan program for 50% of the costs of containing or removing asbestos materials in schools which pose imminent hazards to school children and employees.

The Act requires each State to submit to the Secretary a plan describing the procedures by which the State will distribute to local educational agencies information compiled by the Secretary on asbestos. The plan also include procedures by which each State will retain records and report to the Secretary on the asbestos related actions taken by the State.

The Act authorizes the Secretary of Education to establish an Asbestos Hazards School Safety Task Force (hereinafter "Task Force") to compile medical, scientific, and technical information on the health hazards of asbestos and the means to identify, sample, and test materials suspected of emitting asbestos fibers. Section 4 of the Act also directs the Task Force to distribute this information to State educational agencies, to review grant and loan applications submitted to the Secretary for asbestos detection and control programs, to review EPA guidelines, and to assist the Secretary in promulgating standards and safety procedures under section 7 of the Act.

Section 7 of the Act requires the Secretary to establish technical standards and safety procedures for testing the level of asbestos fibers in schools, for evaluating the likelihood of leakage of asbestos fibers, and for containing and removing asbestos materials. Section 7 also directs the Secretary to establish procedures for replacing asbestos materials with substitutes and restoring school buildings in conditions comparable to those existing before the containment or removal activities, and contractor standards for carrying out such procedures. Grants and loans under sections 5 and 6 shall be available only for those programs which conform to the standards established by the Secretary under section 7.

EPA and the Department of Education have closely integrated this proposed Identification and Notification rule and the proposed Department of Education role for assistance programs which appears elsewhere in today's edition of the **Federal Register**. This integration is particularly apparent in the areas of recordkeeping and reporting and technical standards and criteria. EPA's proposed Identification and Notification rule requires local educational agencies to retain information which is similar to the information which each State, under the Asbestos School Hazard Detection and Control Act of 1980, must retain at the State level. Because of the State recordkeeping requirement, EPA's proposed rule does not require local educational agencies to report. EPA is, however, considering imposing in the final rule a limited reporting requirement under TSCA if, during the rulemaking proceedings, EPA decides that information recorded by the States would be inadequate to meet EPA's enforcement needs.

The Department of Education and EPA will also integrate their technical standards and protocols so that local educational agencies which comply with the Identification and Notification rule shall qualify the federal assistance under the Asbestos School Hazard Detection and Control Act of 1980. Interested persons should consult the Department of Education's proposed regulations to obtain further details on applying for federal assistance and to assist in complying with this proposed Identification and Notification rule.

II. Legal Authority

A. Unreasonable Risks

If the Administrator finds that the use of a chemical substance or mixture presents an unreasonable risk of injury to human health, section 6(a) of TSCA requires him to apply one or more of a number of requirements to such substances or mixture to the extent necessary to protect against the risk.

The finding of unreasonable risk for section 6(a) involves an administrative judgment which balances the probability that harm will occur and the scope and severity of the harm against the adverse effects of the possible regulatory action. Because the probability and severity of harm are elements of risk which may vary in relation to each other, the Administrator may find an unreasonable risk by a lesser probability of a greater harm as well as by a greater possibility of a lesser harm.

Section 6(c)(1) of TSCA describes the factors which EPA must consider when determining whether a chemical substance or mixture presents an unreasonable risk. Section 6(c) provides:

> In promulgating any rule under subsection (a) with respect to a chemical substance or mixture, the Administrator shall consider and publish a statement with respect to—
>
> (A) the effects of such substance or mixture on health and the magnitude of the exposure of human beings to such substance or mixture,
>
> (B) the effects of such substance or mixture on the environment and the magnitude of the exposure of the environment to such substance or mixture,

(C) the benefits of such substance or mixture for various uses and the availability of substitutes for such uses, and

(D) the reasonably ascertainable economic consequences of the rule, after consideration of the effect on the national economy, small business, technological innovation, the environment, and public health.

B. Identification and Notification

EPA proposes this Identification and Notification Rule under the authority of section 6(a)(3) of TSCA, which provides that EPA may impose on a chemical substance or mixture that presents an unreasonable risk:

A requirement that such substance or mixture be marked with or accompanied by clear and adequate warnings and instructions with respect to its use, distribution in commerce, or disposal or with respect to any combination of such activities. The form and content of such warning and instructions shall be prescribed by the Administrator.

Thus section 6(a)(3) explicitly authorizes EPA to require school officials to provide warnings to school employees of the location of asbestos and instructions on how to reduce exposures. The section implicitly authorizes EPA to require those officials to inspect for and identify friable asbestos-containing materials in school buildings to determine whether the schools are subject to the warning and instruction requirements.

The interpretation that section 6(a)(3) provides this implicit authority is essential if EPA is to implement the Congressional policy found in section 2 of TSCA that "adequate authority should exist to regulate chemical substances and mixtures which present an unreasonable risk of injury to health or the environment." A warning requirement under 6(a)(3) will reduce risk to the extent that persons exposed to the chemical, once warned, will either avoid using the chemical or take precautions to avoid unnecessary exposure. But a warning requirement will not reduce risks if those to whom the requirement applies are not obligated to determine whether they are actually subject to the requirement.

III. Findings

This section presents the proposed findings which the Administrator must make in order to regulate friable asbestos-containing materials under section 6(a) of TSCA.

A. Findings Required by Section 6(c)

This part presents the statement required by section 6(c) of TSCA.

1. *Health effects of and magnitude of exposure to asbestos.*

a. *Health effects.* This part summarizes EPA'S proposed findings on the health effects of asbestos. A detailed discussion of these findings is in the health effects section of the Technical Support Document.

The adverse health effects of asbestos exposure are serious. The primary evidence for these adverse health effects comes from numerous epidemiologic studies which have shown that inhalation of asbestos by humans increases risks of developing asbestosis, pleural and peritoneal mesothelioma (cancers of the linings of the thoracic and abdominal cavities), and cancers of the lung, larynx, oral cavity, esophagus, stomach, colon, and kidney. The epidemiologic evidence is supplemented by studies showing similar effects among laboratory animals.

The diseases caused by asbestos inhalation are irreversible. Asbestosis is a disease for which there is no effective treatment and which can lead to death. Pleural and peritoneal mesothelioma are virtually always fatal. Treatment of lung cancer is usually unsuccessful. The other types of cancers, amenable to medical treatment to varying degrees, may also lead to premature death.

There is a long induction or latency period for development of diseases resulting from asbestos exposure. Asbestosis and asbestos related cancers may not appear until 15 to 40 years after first exposure.

While exposure to asbestos alone produces a significant increase in the risk of lung cancer, epidemiologic research has shown that the combined effects of cigarette smoking and asbestos exposure produce a marked increase in the risk of lung cancer that is greater than the sum of the increases independently produced by the two agents.

Even after inhalation of asbestos has ceased, individuals continue to be exposed over their lifetimes to asbestos fibers. Not all inhaled fibers will reach or lodge in the lungs. Some fibers will be trapped in the nose before reaching the lungs and will be either swallowed or expectorated; other fibers are cleared after reaching the lungs and, similarly, swallowed or expectorated. Fibers up to 200 microns in length may penetrate to the lung alveoli. Many of these fibers will remain in the lungs for years and some will never be cleared. Fibers which are swallowed may eventually penetrate the gastrointestinal tract and be distributed throughout the body to tissues such as those in the brain and reproductive organs.

The epidemiologic data document injuries to health which have occurred at long and short-term occupational exposures. The epidemiologic studies have for the most part considered asbestos miners and millers, workers in asbestos-processing industries, and asbestos insulation workers. Exposures among these populations were generally long-term and at high airborne concentrations. Occupational exposures as brief as three months, however, have been shown to increase the risk of lung cancer and mesothelioma. One group of asbestos factory workers with less than three months of occupational exposure had a fourfold increase in lung cancer risk. Many of these studies also show a positive dose-response relationship; that is, higher exposures, whether measured in terms of duration or intensity or both, resulted in greater risks of disease.

There are also direct demonstrations of adverse health effects from nonoccupational asbestos exposure. Persons who merely lived in the same household as asbestos workers have developed pleural mesothelioma and signs of asbestosis. Persons living near asbestos mining areas, asbestos products factories, or shipyards have developed pleural mesothelioma.

b. *Magnitude of exposure in schools.* Airborne concentrations of asbestos in school buildings which have friable asbestos-containing materials ar frequently higher than asbestos concentrations in the ambient air. The specific airborne concentration in a given building at a given time depends on such factors as the condition and accessibility of the friable material, the amount of activity, and cleaning methods used in the building.

The prevailing concentration of asbestos (the concentration of asbestos present most of the time in occupied, active areas) in buildings which have exposed friable asbestos-containing materials is estimated to be between 58 nanograms per cubic meter (ng/m ^{3}) and 270 ng/m ^{3}, and may be as high as 500 ng/m ^{3}. For comparison, the airborne concentration of asbestos in urban ambient air is usually below 10 ng/m ^{3}.

"Peak" exposures can occur much in excess of the prevailing concentration of asbestos in buildings. These peaks will occur during damage, repair, renovation, or cleaning, when the friable asbestos-containing material is conducted or settled asbestos fibers are resuspended. Airborne concentrations as high as 17 fibers per cubic centimeter (f/cc) (equivalent to 567,00 ng/m ^{3}) have been measured during removal of a small section of ceiling covered with friable asbestos-containing material, and simple maintenance and cleaning chores can lead to concentrations between 0.2 f/cc and 15 f/cc (6,600 to 500,000 ng/m ^{3}).

The cumulative exposure incurred by someone using a building with friable asbestos-containing materials will be

the result of both prevailing and peak concentrations. The cumulative exposure of a person occupying a building for 1 year could be 270 ng-years/m^3, based only on prevailing concentrations. If that person were also exposed to peaks of 2 f/cc (66,000 ng/m^3) for 5 minutes a day, his additional cumulative exposure would be about 700 ng-years/m^3, more than doubling his total exposure.

An estimated 3 million students, 250,000 teachers and staff, including 23,000 janitors and maintenance personnel, regularly use the 8,600 public schools estimated to have friable asbestos-containing materials in the United States. All of these persons may be assumed to be exposed to the prevailing level of asbestos in active areas of the building.

c. *Risks Due to Low Level Exposure in Schools.* Epidemologic studies demonstrate that exposure to asbestos in workplaces has increased the risk of cancer. Exposure is occurring in schools with friable asbestos-containing material, but the airborne concentrations of asbestos are usually well below those to which workers were commonly exposed. This section presents EPA's estimate of risk attributable to these lower exposures.

Given that several epidemiologic studies indicate that there is a positive relationship between asbestos exposure and the risk of cancer, several models may be used to extrapolate from risk at higher exposure to risk at lower exposure. One such model is the linear non-threshold dose-response model, in which any exposure is assumed to increase risk and the increase in risk is assumed to be directly proportional to the increase in exposure.

The linear non-threshold dose-response model is appropriate for estimating the risks of cancer mortality due to asbestos in schools. Cancer policies of EPA [1] and the Regulatory Council [2] support the use of the linear non-threshold model for chemical carcinogens. The linear model usually results in higher estimates of risk than would be the case for other equally plausible models, and its use provides the highest degree of public health protection. Furthermore, dose-response curves from studies of asbestos workers are reasonably consistent with a linear dose-response relationship for asbestos-induced cancer. There is no strong evidence of a threshold level of asbestos exposure below which there is no increase in risk.[3]

EPA's quantitive assessment of the risk in schools is based on extrapolations assuming in linear non-threshold dose-response curve. The result is presented as a range of premature deaths that may result from such exposure.[4] In using this model, two concepts must be introduced: cumulative exposure and lifetime risk.

Cumulative exposure is determined by the average airborne concentration to which the person is exposed and the time for which the person is exposed to this concentration. The measure of cumulative exposure is the nanogram-year per cubic meter (ng-year/m^3), which is determined by multiplying average exposure in nanograms per cubic meter (ng/m^3) by the number of years of exposure. A given cumulative exposure is assumed to carry the same risk, whether derived from many years' exposure at low levels or a few years' exposure to much higher levels.

The lifetime risk is the probability that a person who has been exposed to asbestos will die prematurely as a result of that exposure. Under the chosen model, the lifetime risk is a linear function of the person's cumulative exposure after a suitable induction period (in this case 20 years) has elapsed.

EPA bases its quantitative estimate of the lifetime risk due to asbestos exposure on an epidemiologic study which covered over 12,000 asbestos insulation workers who had been exposed for at least ten years and who had survived at least 20 years after first exposure. The estimate of lifetime cancer risk was 48%, with a 95% confidence interval of 38% to 57%. That is, the death rate of the workers in this study is estimated to have been from 38% to 57% higher than expected because of premature deaths from cancer due to asbestos exposure. The average cumulative exposure incurred by these workers is estimated to have been between 2,000,000 ng-yr/m^3 and 10,000,000 ng-yr/m^3, with a best estimate of 6,000,000 ng-years of exposure.

According to EPA estimates which are explained in detail in the Technical Support Document, between 100 and 6,800 persons may be expected to die prematurely of cancers due to exposure to asbestos at the prevailing levels in schools, with a most likely estimate of 1,100 premature deaths.[5] This estimate is based on the assumptions that: a linear dose-response relationship for lung cancer and mesothelioma holds at airborne asbestos concentrations as low as 58 ng/m^3; the 3.2 million persons using schools with friable asbestos are exposed to the "prevailing" level throughout the school day and year;[6] and the average school and friable asbestos-containing materials will continue in use for thirty years.

This quantitative estimate does not include an estimate of the premature deaths that may result from exposure to peak concentrations.[7] Students, teachers, and school administrators may only occasionally encounter peak exposures. Janitors and maintenance personnel, however, are much more likely to incur exposure to peak concentrations because they are directly involved in activities which most often generate these peaks. Workers may often encounter intense exposures as they conduct repair operations which involve asbestos-containing materials, or as they sweep, dust, and clean in contaminated areas.

Monitoring studies of such activities indicate the seriousness of these possible exposures. For instance, janitors who sweep in contaminated areas for five minutes every day could double their exposure (see the section immediately preceding this entitled "Magnitude of Exposure in Schools".) Cleaning and moving books in a library

[1] See *Interim Procedures and Guidelines for Health Risk and Economic Impact Assessments of Suspected Carcinogens*, Environmental Protection Agency, published in the **Federal Register** of May 25, 1976 (41 FR 21402); and *Scientific Bases for Identification of Potential Carcinogens and Estimation of Risk*, Consumer Product Safety Commission, Environmental Protection Agency, Department of Health, Education and Welfare, Department of Agriculture, published in the **Federal Register** of July 6, 1979. (44 FR 39858, 39873)

[2] The Regulatory Council was established by President Carter in October 1978 to coordinate the activities of federal regulatory agencies and to assist them in implementing their regulatory programs in a consistent and cost-effective manner. It consists of representatives from 35 agencies and departments with significant regulatory responsibility. The Council's Cancer Policy is set forth in *Regulation of Chemical Carcinogens*, Regulatory Council, September 28, 1979.

[3] Technical Support Document for Regulatory Action Against Friable Asbestos-Containing Materials in Schools, Office of Pesticides and Toxic Substances, EPA, June, 1980, at pages 95–97. [hereinafter T.S.D.]

[4] Quantitive risk assessments are rough estimates of potential hazard. They are one factor EPA considers in determining whether a chemical presents an unreasonable risk. The actual number of deaths which will occur may vary due to such factors as uncertainties in the extrapolation of dose-response data to low dose levels and differences in individual susceptibility to disease.

[5] EPA regards these risks as serious. EPA is not at this time proposing an abatement rule because certain technical issues respecting the selection of the proper techniques for reducing risks require resolution, but expects to resolve these issues by late 1980.

[6] Estimates of prevailing levels are based on information from buildings in which the asbestos-containing material is exposed, that is, not behind a barrier. Since in some schools the asbestos is behind a barrier, some part of this population may not be exposed to the "prevailing" levels.

[7] It should be noted, however, that the estimate does include the contribution of peak episodes to increasing the prevalent concentration in the building.

area can generate fiber concentrations up to 15.5 f/cc (500,000 ng/m^3) and, minor ceiling repairs may cause fiber concentrations to exceed 17 f/cc (567,000 ng/m^3).

EPA has refrained from attempting to quantify the total increased risks occurring from peak exposures because of the difficulty of estimating the frequency of disturbances to the material and the duration of peak airborne concentrations. However, EPA finds it reasonable to conclude that such activities may occur frequently and that, consequently, the risks of injuries during these activities may be much greater than the risks from prevalent exposure.

2. *Environmental effects and magnitude of environmental exposure.* Section 6(c) requires the Administrator to state the relevant factors and key considerations which form the basis for regulatory action under section 6(a). This regulation addresses risks to human health and is issued to reduce exposures to school children and employees to airborne asbestos. The environmental effects of asbestos and the magnitude of environmental exposure to asbestos are not relevant to this rulemaking.

3. *Benefits of asbestos in schools and availability of substitutes.* The benefits of having friable asbestos-containing materials in schools and the availability of substitutes for them are not relevant to this rulemaking since the regulation will not require schools to forego the benefits conferred by these materials. To the extent that asbestos-containing materials confer benefits of thermal or acoustical insulation, or other benefits, they may continue to do so. EPA therefore, does not consider it necessary for this particular rulemaking to publish a detailed review of the benefits of asbestos or of available substitutes.

4. *Economic effects.* This section presents EPA's determinations of the economic consequences of this regulation as required by section 6(c)(1)(D) of TSCA.

EPA consulted States agencies involved in asbestos school programs, school districts which responded to the survey form distributed as part of EPA's Technical Assistance Program, laboratories which analyze suspect materials, and contractors offering a variety of services to schools. Using the data obtained from these sources, EPA computed the unit costs of the major individual actions required by the rule (inspection, sampling and analysis of materials, recordkeeping, and notification of employees), and estimated the rule's impact on individual schools. EPA also estimated the number of schools in the country which will be affected by each of these requirements and the rule's nationwide economic impact.

EPA estimates that the overwhelming majority of schools will each spend less than $50 on compliance with the regulation, and that the total cost for all schools will be approximately $5.2 million.

a. *Unit costs.* The unit cost is the cost of carrying out a single action in one school. EPA estimated unit costs for: inspecting a school; taking bulk samples of friable material; analyzing samples for asbestos content; compiling a record of inspections, sampling and analyses; and notifying the school's employees that the school does or does not contain asbestos. The estimates of average unit costs are summarized in the table below:

Table I.—*Average Unit Costs*

[Costs of single actions for individual schools]

Action	Unit cost
Inspection	$21.00
Sampling	25.00
Analysis	129.00
Recordkeeping:	
For schools with friable material	25.00
For schools without friable material	10.00
Notification:	
For schools with asbestos	42.50
For schools without asbestos	12.50
Recordkeeping (Unit cost for a school district)	20.00

The average unit cost for inspecting a school for friable materials is $21. The procedure requires no special equipment, and involves only labor costs; the unit cost depends primarily on the size of the school and the salary of the inspector. A variety of professionals have carried out inspections, among them superintendents, engineers, maintenance persons, architects, and public health coordinators. EPA's estimate of average unit cost is based on information obtained from 247 school districts regarding the time required to inspect and the hourly salary of the inspector.

The sampling procedures entail minimal costs for postage and for small containers for samples. Here, again, the major component of unit cost is labor, primarily for locating appropriate sampling areas, taking samples, finding an acceptable laboratory, and monitoring the quality of the analysis. EPA estimates that the average unit cost of sampling is $25.

The average cost for analyzing one sample for asbestos by Polarized Light Microscopy (PLM) is $43, although costs reported by 76 laboratories ranged from $10 to $150. A school which has one type of friable material will be required to take three samples and have them analyzed using PLM, for an average cost per school of $129. Some schools may use X-ray Diffraction (XRD) as a back-up method; the cost for this type of analysis is $70 per sample, with costs ranging from $55 to $200 at the 52 responding laboratories. If all three of a school's samples require supplementary analysis by XRD, the cost for analysis would increase to $339.

The unit cost for analysis will increase if more than one sampling area is identified, since this will entail the analysis of at least three additional samples. The unit cost will also increase if more than three samples are taken in a large sampling area or if additional samples are needed because initial results are inconclusive. For example, a school which identifies 2 large sampling areas, takes 7 samples from each, and uses XRD on one-half the samples will incur a cost for analysis of nearly $800. However, EPA believes that the limited number of such cases will not substantially affect the average unit cost.

The unit cost for a school to prepare and maintain a record of inspections, sampling, and analysis will vary according to the presence or absence of friable materials in the school. If friable materials are present, the average unit cost is $25: this estimate assumes that clerical workers who receive $10 per hour will require 2 hours to record data on the location of materials and sample sites and 0.5 hours to prepare copies of laboratory information.

The unit cost for recordkeeping will be much less if the school contains no friable materials. Recording data on sample sites and maintaining copies of correspondence with laboratories will not be necessary; hence, for schools which contain no friable materials, the average unit cost will be only $10.

The unit cost of notifying employees of the results of the inspections and analyses depends on whether the school has friable asbestos-containing materials. If such materials are present, the average unit cost will be $42.50; this estimate is based on 3 hours labor at $10 per hour to prepare notices and ½ hour at $25 per hour to inform employees. The absence of friable asbestos-containing materials in the building would preclude the need to prepare notices, and thus reduce the unit cost to $12.50.

The average unit cost per school district for compiling results of inspections of its schools is $20, based on 2 hours of labor at $10 per hour. Larger districts will, of course, incur higher costs than $20, but for the many school districts which comprise only one school, the cost will be much less.

These unit cost estimates can be combined to estimate the impact of the

rule on a school for which a specific set of actions is required. If a school contains friable materials, it will incur costs for inspection ($21), sampling ($40), analysis ($129 for 3 samples analyzed by PLM), recordkeeping ($25), and notification of employees ($12.50 or $42.50, depending on whether the material contains asbestos. The average total cost for such a school is therefore $227.50 or $257.50.

However, for the majority of the schools the costs will be much less. If a school has no friable material, it need only inspect ($21), record the results of the inspection ($10), and notify its employees ($12.50) for a total average cost of about $43.50. A school which has previously been inspected and which contains no friable materials will incur a cost of only $22.50 for recordkeeping and notification.

b. *Total cost of compliance.* This section contains EPA's estimates of the number of schools which will be affected by each of the rquirements of the rule; the total cost of compliance is summarized in the following table.

This estimate of the total cost of compliance does not account for the financial assistance that the Department of Education will provide to local educational agencies through the Asbestos Hazard Detection Program. Because this program will pay for up to 50% of the costs of complying with this regulation, EPA estimates that the actual total economic impact on local educational agencies may be significantly less than estimated here.

Table II.—*Compliance Costs*

Action	Unit cost	Schools affected	Total cost (in thousands)
Inspection	$21.00	44,000	$924
Sampling	25.00	5,600	140
Analysis	129.00	5,600	722
Recordkeeping:			
For schools with friable material	25.00	14,000	350
For schools without friable material	10.00	96,000	960
Notification:			
For schools with asbestos	42.50	10,300	438
For schools without asbestos	12.50	99,700	1,246
Recordkeeping (for school districts and private school organizations)	20.00	19,000	380
Total			5,160

There are approximately 91,000 public and 19,000 private elementary and secondary schools in the country. The 91,000 public schools are organized into about 16,000 school districts.

Many schools have already been inspected (and where necessary, have sampled and analyzed) in response to State programs or to EPA's Technical Assistance Program. These schools will not have to repeat inspections, sampling, and analyses in order to comply with this rule. The number of public and private schools which remain to be inspected is approximately 44,000. This estimate may vary because inspections or sampling and analyses have in some cases been incorrectly carried out.

EPA's estimate that 44,000 public and private schools remain to be inspected is based on analysis of information obtained from State asbestos coordinators and from several well-documented State and local government reports. This information comes mainly from eleven States; of the 30,093 public schools in these States, 17,878 have been inspected. 40% of the public schools in these States have not been inspected. Assuming that this percentage is indicative of that of the nation as a whole, 36,400 public schools in the nation remain to be inspected. EPA does not have extensive data on private schools, but estimates that a similar ratio holds for private schools and public ones. Therefore, 40% of the private schools in the country, or 7,600 private schools, are estimated to require inspection.

Thus, a total of 44,000 public and private schools throughout the country will be affected by the inspection requirements. The total cost for compliance with these requirements will be $44,000 \times \$21 = \$924,000$.

EPA estimates that 5,600 public and private schools will be affected by the sampling and analysis requirements of the rule. Based on information obtained from its survey of public schools and State and local government reports, EPA estimates that 11,600 public schools have friable materials. Assuming that a similar percentage (12.7%) of private schools have friable materials, EPA calculates that 2,400 private schools (12.7% of 19,000) have such materials. The total number of public and private schools with friable materials is therefore 14,000.

However, 60% of these schools have already been inspected and the materials in them sampled and analyzed. If 40% of all schools have not already been inspected, sampled and analyzed, 5,600 schools still require sampling and analysis of friable materials. The cost of sampling and analyzing the friable materials found in these schools will be $5,600 \times (\$25 + \$129) = \$862,400$.

All 110,000 public and private schools will be affected by recordkeeping requirements. However, the majority of schools will not contain friable materials and will incur only the lesser recordkeeping costs. EPA estimates that 14,000 schools will find friable materials and will therefore spend $25 each for recordkeeping; the remaining 96,000 do not have friable materials and will require only $10 each for recordkeeping. Thus the total cost for all schools to comply with the recordkeeping requirements of this regulation will be about $(14,000 \times \$25) + (96,000 \times \$10) = \$1,310,000$.

Similarly, all schools will be affected by the requirement that employees be notified of the presence or absence of asbestos in their buildings, but the majority will incur only the lesser notification costs. EPA estimates that 100,000 schools will be found not to have asbestos-containing materials and will therefore need to spend only $12.50 each to notify their employees. The other 10,000 schools which do have asbestos-containing materials will incur costs of $42.50 each, making the total cost for all 110,000 public and private schools to notify their employees $(10,000 \times \$42.50) + (100,000 \times \$12.50 = \$1,684,000$.

All 16,000 public school districts and about 3,000 private school organizations must also compile a record. The cost of preparing and maintaining 19,000 records is estimated to be $380,000.

5. Other EPA Statutes

Section 6(c) of TSCA also requires that if the Administrator determines that a risk of injury to health or the environment could be eliminated or reduced to a sufficient extent by actions taken under another Federal law administered by EPA, the Agency may not promulgate a rule under section 6(a) of TSCA to protect against the risk unless the Administrator finds it is in the public interest to use TSCA. EPA has found no other Agency administered statute that will enable it to eliminate or reduce the risks against which this rule protects.

B. Findings Required by Section 6(a)—(1) Unreasonable Risk

On the basis of the foregoing factual information and on the information in the rulemaking record, EPA has concluded that the presence of unidentified friable asbestos-containing materials in schools and the absence of notice of their presence and of instructions on reducing exposure constitute an unreasonable risk of injury to school children and school employees.

The presence of unidentified friable asbestos-containing materials in school buildings increases significantly the likelihood that peak exposures to asbestos will occur. Since peak exposures to asbestos in schools entail

risks of serious injuries which may be reduced at extremely low costs, EPA finds that these exposures present an unreasonable risk and should be reduced accordingly.

Peaks will occur during distrubances of the friable material (either accidental or during repair or renovation operations) and during resuspension of previously released fibers by cleaning and maintenance operations (sweeping, dusting, vacuuming, etc.), or by general activities in the vicinity of fibers that have settled on floors and other surfaces.

The 10,300 schools which EPA estimates contain friable asbestos-containing material employ over twenty thousand custodians and other maintenance personnel. These custodians will sweep in areas containing friable asbestos. They will clean and dust in these areas; they will change lights in ceilings covered with friable asbestos-containing materials; they will undertake minor repairs and renovations. Without knowing that these areas contain asbestos, these custodians will undertake normal maintenance activities with no protection against unnecessary exposures, and they will risk serious injuries as a result.

Moreover, all of these activities which cause peak exposures further contaminate the building and increase the prevailing concentrations. Sweeping, dusting, and cleaning suspend previously released fibers and disperse them throughout the building. Minor repairs and distrubances to the friable asbestos-containing materials release additional fibers. Both types of activities will increase prevalent concentrations which, in turn, will increase the risk to the larger population of children, teachers, and school administrators who occupy the buildings.

Estimates based on the linear dose-response model and the numerous documented case histories of serious injuries resulting from brief short-term exposure provide ample evidence that these peak exposures that are occurring in schools present risks of serious injuries.

EPA finds that the requirements of this proposed regulation will reduce these risks. EPA believes that school officials and maintenance personnel, once informed of the risks of asbestos and of interim measures to avoid the risks, will act in their own best interests and the interests of school children to reduce the peak exposures as much as possible. If friable asbestos-containing materials in schools are identified, custodians will be able to avoid them during renovation projects and minimize the disruptions of them during routine maintenance. If the custodians are provided with information on the use of wetting agents and on proper work practices when conducting necessary repairs and renovations, they will be able to reduce fiber release during such operations and reduce risks to themselves and to others. Instructions on proper cleaning activities in contaminated areas, including wet mopping and wet dusting, will reduce risks caused by unnecessary resuspension of asbestos fibers that would otherwise occur.

Finally, once local school officials know of the presence of friable asbestos-containing materials in buildings, they can take steps to ensure that occupants of the building avoid areas which contain the materials or avoid activities which unnecessarily disturb the materials.

Thus, by identifying the friable asbestos-containing materials in school buildings and by implementing specific interim control procedures for reducing exposures, local school officials will reduce the risks of injury resulting from such exposures to school children, custodians, and other building occupants.

In addition to reducing peak exposures, the requirements of the regulation will reduce the prevalent level of fiber concentrations in schools by reducing the number of fibers contributed to this level by repeated distrubances and resuspension. However, EPA does not regard this reduction in prevalent exposures as sufficient to protect the health of children and other building occupants over the long term. Identifying friable asbestos-containing materials in school buildings is the first step in an overall two-stage asbestos abatement program for schools. EPA intends to proceed with the part of the program, which will provide for certain abatement actions, in late 1980. This first regulation will enable school officials to complete the necessary initial steps in the program in preparation for this abatement rule and will, in the interim, reduce certain risks that would otherwise occur.

As reviewed above, the economic impacts of the rule will be small. This regulation will impose costs upon all schools, but to varying degrees, as explained in the "Economic Effects" section above. In some instances, costs to individual schools may reach several hundred dollars. These costs are not unreasonable in view of the reduction in exposure to asbestos that will result from this rule. The identification of asbestos in schools, furthermore, is a prerequisite to making the ultimate abatement determinations and will, therefore, contribute to the reduction in risk that will result from abatement.

C. Analysis Under Section 9 of TSCA

Section 9(a) of TSCA requires EPA to review other Federal authorities to determine whether action under those authorities may prevent or sufficiently reduce unreasonable risks. EPA has reviewed other Federal authorities and finds that action under those authorities will not sufficiently reduce the risks addressed by this rule. Specifically, EPA has considered the regulatory authority of the Consumer Product Safety Commission (CPSC), the Occupational Safety and Health Administration (OSHA), and the Department of Education (ED).

Friable asbestos-containing materials in schools may be "consumer products" within the meaning of section 3 of the Consumer Product Safety Act (CPSA), 15 U.S.C. 2051. Section 12 and 15 of the CPSA provide authority under which the Commission might require asbestos inspection, identification or marking requirements.[8] Neither section is sufficient to prevent or reduce the risk of asbestos-containing materials in schools primarily because implementation of the section cannot be undertaken without identification of the specific manufacturers, distributors or retailers of the asbestos products for which regulation is sought. Section 12, 15 U.S.C. 2061, authorizes the Commission to file, in a United States District Court, an action against identified manufacturers, distributors, or retailers of an "imminently hazardous consumer product" for such relief as may be necessary to protect the public against the hazard.

Similarly, section 15 of the CPSA, 15 U.S.C. 2064, authorizes the Commission to order identified manufacturers, distributors or retailers of any product that presents a "substantial product hazard" to provide notice of the hazard to the general public or to persons to whom the manufacturer, distributor or retailer knows the product was delivered or sold.[9] Friable asbestos-containing materials were installed in over 10,000 schools between 1954 and 1973. It would be prohibitively difficult to determine which companies installed, sold, or purchased those asbestos materials. Often there are no installation

[8] Section 8 of the CPSA, 15 U.S.C. 2057, authorizes the Commission to issue rules to ban hazardous consumer products. Rules under Section 8, however, may only apply to consumer products manufactured after the effective date of the rule. In this rule EPA is concerned with existing asbestos products.

[9] In analyzing sections 12 and 15 of the CPSA, the EPA assumes that asbestos in schools meets the tests of either "imminently hazardous consumer product" or substantial product hazard."

records, and many companies who did install may no longer exist. Tracing back to the original product manufacturer through a chain of sales presents similar, insurmountable difficulties. TSCA, on the other hand, contains no such identification requirement and authorizes EPA to impose regulatory requirements on the local educational agencies and avoid the serious practical difficulties of identifying the sellers and installers of the asbestos.

In addition, using section 15 of the CPSA would present signficant procedural difficulties that would lead to delay in regulation. Under section 15 the Commission would be required to provide an opportunity for an adjudicatory hearing, which would include extensive cross-examination of witnesses. TSCA only requires informal rulemaking procedures, after which EPA issues a rule of general applicability. Previous experience with adjudicatory hearings has shown that they lead to considerable delay that often impedes the regulatory process.[10] Thus, practical and procedural difficulties in acting under the CPSA in this case, could delay implementing a procedure for identifying asbestos in schools. This delay would needlessly increase the risk from asbestos by extending the period during which school children and employees will be exposed. Action under CPSA authorities, therefore, could not sufficiently reduce the risks subject to the rule.

Under the Occupational Safety and Health Act (OSHA), the Occupational Safety and Health Administration is authorized to promulgate workplace safety and health standards which employers must follow. Section 3 of OSHA, 29 U.S.C. 652, defines employer as "a person engaged in a business affecting commerce who has employees, but does not include the United States or any State or political subdivision of a State." Thus, while action under OSHA could address workplace exposures to employees of some private schools that could be considered businesses, it could not address exposures to public employees occurring in public or parochial schools, or exposures to school children.

EPA estimates that more than 80% of the nation's primary and secondary schools lie beyond the jurisdiction of OSHA and would require separate action under TSCA to address asbestos risks. Regulation under TSCA will sufficiently reduce risks to asbestos exposures in both public and private schools, without dividing the regulatory responsibilities between two federal agencies. Regulation under TSCA thus avoids the potential for inconsistent and inefficient efforts between Federal agencies.

The Department of Education has authority to affect asbestos in schools under the Asbestos School Hazards Detection and Control Act of 1980, which was signed into law on June 14, 1980. This law was intended by Congress to augment EPA's asbestos program.

The Act establishes as its primary purpose a Federal grant and loan program to local educational agencies for detecting and controlling asbestos in schools. Section 5 of the Act directs the Secretary of Education to establish a direct grant program to local education agencies for 50% of the costs of conducting an asbestos detection program. Similarly, section 6 directs the Secretary to administer a long-term loan program for 50% of the costs of containing or removing asbestos-containing materials in schools which pose an imminent hazard to school children or employees. Loans and grants are only available for those programs which meet the criteria and standards established by the Secretary under section 7 of the Act.

After consulting with the Department of Education, EPA has concluded that action under the Asbestos School Hazard Detection and Control Act of 1980 will not sufficiently reduce risks of asbestos in schools and that regulation under section 6 of TSCA in conjunction with the Asbestos School Hazards Detection and Control Act constitutes the best method to reduce risks posed by asbestos in schools.

The Asbestos School Hazard Detection and Control Act of 1980 contains no authority to require schools to identify friable asbestos-containing materials or to provide notice to employees of methods to avoid or reduce potential exposures. Such a requirement is necessary to reduce adequately the risks of asbestos in schools. Some schools remain unconvinced of the health hazards of asbestos. Others, while more informed about the general health hazards of asbestos, have claimed that they cannot incur any additional expenses for asbestos-related activities, and cannot be expected voluntarily to shoulder the additional financial burdens not covered by the Federal grant program. Finally, those schools which have conducted inadequate asbestos programs may not wish to undertake another program regardless of the availability of Federal assistance.

[10] See, e.g. Pedersen, "Formal Records and Informal Rulemaking," 85 Yale L.J. 38, 44–55 (1975).

IV. Discussion of the Rule

This part reviews the specific requirements of the regulation and discusses the major rationales which lie behind these requirements. Part V, below, addresses the public comments received on the ANPRM which pertain to the issues raised by this regulation.

A. Definitions

The definition section of the regulation, section 763.2, adopts the definitions contained in section 3 of TSCA, 15 U.S.C. 2602, and provides certain additional definitions for the purposes of the regulation.

The definition of "asbestos-containing material" includes any material which is applied to ceilings, walls, pipes, and structural parts in a building and which contains more than one percent asbestos. The enumeration of specific places where friable asbestos is most commonly located is not intended to be all-inclusive. All friable materials used in any part of the building construction are covered by this regulation. The definition is consistent with the term as it is used in the National Emission Standard for Asbestos, 40 CFR 61.21. The one percent lower limit is not a finding by EPA that materials containing less than one percent asbestos do not present a risk of exposure to asbestos, but is an attempt to exclude from the regulation construction materials which inadvertently contain trace contaminants of asbestos fiber.

"Friable materials" are defined as any materials that when dry can be crumbled, pulverized, or reduced to powder by hand pressure. Friable materials may contain asbestos fibers or they may contain other fibers, such as cellulose and glass fiber. The friability of a particular material depends upon the components of the material, the amount of binder added, and the method of application. Friable materials are usually sprayed on, whereas troweled-on materials may be cementitious and harder.

The potential for fiber release, contamination of the building, and exposure depends upon the condition and the type of material. Where the asbestos fibers are encased in firm, hard materials, the propensity for fiber release is reduced. Conversely, soft and loosely-bound materials (i.e., friable materials) can release fibers more easily. These soft asbestos-containing materials present the exposure problems addressed by this regulation.

The definition of "school buildings" is broad and is intended to include all school facilities which school children and employees may occupy. All areas,

including student, administrative, maintenance, and custodial areas within the school buildings, are included in the definition.

The requirements of this regulation are directed at local educational agencies, which are defined to include all public and private elementary and secondary schools as defined by State law. Also included in the definition are vocational training schools, private training institutions (for grade 12 and under) and special educational schools for the handicapped.

Three different classes of schools fall within this definition. First, all public school districts (which generally include a number of schools ranging from kindergarten through twelfth grade) are defined as "local educational agencies." The governing official of school districts shall be responsible for ensuring that their individual schools are inspected, that friable materials are sampled and analyzed, and that the other components of the regulation are complied with.

Second in the defintion of local educational agencies is the class of all public schools which are not in school districts. Generally these schools are independent administrative entities. The governing officials of each of these schools shall be responsible for compliance.

The third and final category of schools included in the definition of local educational agencies are non-public, not-for-profit schools. Some schools in this category are autonomous private elementary and secondary schools. The governing officials of these schools shall bear responsibility for compliance. Other schools in this category, for example parochial schools, may either be part of a school network (e.g. a diocese) or may be autonomous. If autonomous, the school is the local educational agency; if part of a network such as a diocese, the diocese is the local educational agency. For a discussion of issues relating to compliance by the governing officials of these entities defined as "local educational agencies," see section V., below, entitled "Miscellaneous Issues."

Excluded from the definition are colleges, universities, and other institutions of higher learning. EPA has determined that the large population in secondary and elementary schools and the special situation in such schools (highly active population and many years attendance at one school building) warrant immediate attention. EPA has announced its intention to consider regulation of asbestos in non-school buildings. Colleges and universities will be included in this consideration.

Finally, "sampling area" is defined as any area within a school building which contains friable materials that are homogenous in texture and appearance. The purpose of grouping all friable materials within a building into sampling areas is to ensure that each different type of friable material is sampled and analyzed for asbestos, and that the sampling and analytic burdens of this regulation are minimized.

Where friable materials are uniform in appearance and texture the regulation requires that they be treated as the same type of material for the purposes of determining their asbestos content. Materials that are uniform in appearance and texture will most likely contain the same constituent ingredients. Grouping such materials into "sampling areas" permits one set of sampling and analyses to apply to the entire sampling area, and reduces the need for more frequent samples. Proceeding on a room by room basis for sampling would unnecessarily increase costs by ignoring that the friable materials in different rooms may very likely be the same. Thus the regulation requires that friable materials that are similar in texture and appearance be defined as a "sampling area," and specifies that 3 samples be taken from each sampling area.

For example, the friable material in a large gymnasium that was applied at one time and is of uniform appearance is probably homogenous in make-up. The gymnasium should therefore be considered one sampling area for the purposes of sampling. An adjoining locker room facility and connecting hallways constructed at the same time and all containing friable material of similar appearance would be part of the same sampling area. Where the texture and appearance are similar, but where, for instance, the material in the hallway has been repainted and is a different color, the materials should still be regarded as similar in texture and appearance and included in the sampling area. If construction or renovation dates differ, or if the materials differ in appearance, then the friable material should be divided into two sampling areas for sampling purposes.

EPA cannot attempt to describe in detail every possible criterion which might lead an inspector to classify sampling areas. EPA notes that texture, appearance, and date of application are highly relevant, but recognizes that other criteria may help in defining a sampling area. EPA thus urges inspectors to use their best judgment in classifying sampling areas, and to keep in mind that the purpose is to group materials which, with respect to their constituent ingredients, are likely to be the same material. Proper identification of sampling areas is extremely important since incorrect identification of sampling areas may yield inaccurate identification of friable asbestos-containing materials.

B. Inspection

Section 763.3, entitled "Inspection for Friable Material," requires local education agencies to inspect visually all school buildings for friable materials. All areas including student, administrative, maintenance and custodial areas must be inspected. Friable material is commonly found on steel support beams and columns, and on ceilings and walls of cafeterias, machine rooms, and storage rooms. It may also be located on overhead surfaces of indoor pools and gymnasiums.

Inspections should also be made above suspended ceilings. Asbestos-containing material may have been applied to the original ceiling, steel beams, and other surfaces above the suspended ceiling. If the overhead space between the suspended ceiling and the original ceiling is part of the building's air circulation system, it is very important to inspect the area. Fibers which have been released from deteriorating or damaged material could travel throughout the ventilation system to other areas of the building.

Inspectors should adhere to the following precautions when inspecting above suspended ceilings. First, all persons who are not required for the inspection should leave the area. Unnecessary exposures should always be avoided. And second, if the overhead space is part of the air circulation system, the system should be shut off during the inspection.

C. Sampling

The proper sampling and analysis of friable materials are extremely important since the decision to take corrective action under the second part of the program will depend in large part on the results of this sampling and analysis.

Section 763.4 requires school officials to sample friable materials found within the building and 763.5 requires them to analyze the samples to determine if they contain asbestos. Officials may, in addition, consult building records to assist them in identifying asbestos, but numerous experiences have proven building records to be unreliable. In addition, many comments submitted in response to the ANPRN urged EPA to

exclude the use of building records as a means of identifying asbestos. Therefore the regulation requires that a determination that the friable material does or does not contain asbestos be based on an analysis of the samples by Polarized Light Microscopy (PLM) with X-ray Diffraction (XRD) as a backup method.

After the inspector has located the friable materials in the school building and has organized all friable materials into sampling areas, § 763.4 requires school officials to take at least three samples from each sampling area.

EPA has determined that a minimum of three samples per sampling area is a reasonable requirement for schools that discover the presence of friable materials.

Taking a number of samples from each sampling area is important for two reasons. The asbestos content of friable materials within a sampling area may vary because of differences in mixing at the time of application. Also, analysis of individual samples, even with the best techniques available, is subject to error. Increasing the number of samples and ensuring that samples are taken without bias will increase the likelihood that the samples represent the actual bulk material. Increasing the number of samples thus increases the reliabililty of the identification.

EPA has determined that 3 samples in each sampling area will ensure reasonable accuracy of results without imposing an unnecessary burden on the persons subject to the rule. If the actual asbestos content of the friable material in the sampling area is 5%, analyzing 3 samples according to the requirements of the regulation will result in a 90% probability that the asbestos will be correctly identified: the probability increases as the percent asbestos content increases. Most of the friable asbestos-containing materials covered by this rule have more than 5% asbestos, and will therefore be characterized adequately by 3 samples.

In order to significantly increase the accuracy of results, such a large number of samples would be required as to make this rule impractical. Requiring, for example, that 7 instead of 3 samples be taken in every sampling area would more than double the cost of analyses while improving the analytical results in only a very limited number of sampling areas. If the actual asbestos content of a material is between 1 and 5%, as many as 50 samples might be required to achieve 90% probability that the sampling area is properly classified. This number of samples would clearly be unnecessary in the vast majority of cases.

If taking 3 samples, the inspector should penetrate the depth of the material with a sample container, such as a plastic 35 millimeter film canister or a small, wide mouthed jar. The container should be dry and clean. Twisting the open end of the container into the material should cause a core of the material to fall into the container. Samples may also be obtained by scraping small amounts of the material into the container by using a knife. It is important that the sample penetrate through all the layers to the substrate.

The person taking samples should then close the container tightly, wipe its exterior with a damp cloth, and tape the container closed. Each container should bear a label with an identification number which will be recorded in the asbestos file.

Precautions should be taken while sampling to reduce fiber release. EPA therefore strongly recommends that the person sampling the material minimize all unnecessary disturbances to the materials, lightly spray the sampling area with water to retard fiber release, and ensure that only those persons necessary for the actual sampling are present.

D. Analyses

After school officials sample friable materials, section 763.5 requires them to have the samples analyzed by Polarized Light Microscopy (PLM), by X-ray Diffraction (XRD) where necessary, to determine if they contain asbestos.

EPA has prepared a document entitled "Methods for the Determination of Asbestiform Minerals in Bulk Samples by Polarized Light Microscopy and by X-ray Powder Diffraction". This document contains interim analytic protocols for PLM and XRD which will govern this analysis and is incorporated in the rule by reference.

EPA has distributed the document to laboratories which are, to EPA's knowledge, involved in the analysis of bulk samples for asbestos. Copies can be obtained by calling 800–424–9065 (in Washington, D.C., call 554–1404). These protocols represent the best procedures to determine the presence of asbestos, considering the reliablility of the results, the simplicity of the procedures, and costs.

PLM is widely used in geological and chemical services for identifying crystalline substances by their optical and crystallographic properties. The techniques are well established and the analysis is relatively low in cost, avaraging $43 per sample. Bulk sample analysis using PLM involves the ability to search a sample and identify the suspect fibers. An experienced microscopist can locate and identify even small amounts of asbestos in bulk samples.

XRD involves X-raying a small sample of the suspect friable material to identify fibers by the unique patterns produced by the crystalline materials present. The technique usually yields information with a high degree of diagnostic reliability, but also entails higher costs.

The XRD protocol is intended as a supportive technique, ancillary to PLM, and should be used when additional information is necessary to characterize a sample, where, for instance, multiple PLM analyses provide inconclusive results. XRD cannot differentiate between fibrous and non-fibrous forms of serpentine and amphibole minerals, cannot positively identify a mineral as asbestiform, and should not be used as an independent method of analyzing samples for asbestos.

Electron microscopy (EM) is a third method for identifying asbestos fibers in bulk materials. Examination of the structure of individual fibers or fibers by EM, especially if used in conjunction with PLM or XRD, can yield specific and accurate fiber identification. However, EM analysis is a high cost technique and the availability of qualified laboratories to perform EM is limited. Also, because a very small amount of material is actually examined in EM analysis, the analysis requires a greater number of analyses compared to the other techniques to ensure that the analytic results accurately indicate the contents of the total sample. Accordingly, EPA does not recommend EM as a method for analysis.

E. Recordkeeping

Section 763.7 requires school officials to maintain records. The recordkeeping requirement serves two functions: providing EPA with some means to verify compliance, and providing notice and warnings of the presence of friable asbestos-containing materials.

In order to assist EPA in verfying compliance with the regulation, school officials must retain records of the inspections, sampling, and analysis performed in accordance with this regulation.

The retention of records of the location of asbestos and of methods to reduce exposures and notification to employees of this information constitutes the best method of providing warnings and instructions to accompany the friable asbestos-containing materials in schools. If school buildings contain friable materials, the school official must also retain a floor plan of the building or a written description which will clearly indicate the location of all

friable asbestos-containing materials. The records shall also include information on the methods which school employees should follow to avoid or reduce exposures.

The recordkeeping requirements are closely integrated with the recordkeeping and reporting requirements under the Asbestos School Hazard Detection and Control Act. Under section 4 of the Act, States are required to retain certain records of the asbestos activities of local educational agencies within their jurisdiction and report certain information to ED. EPA has tailored these recordkeeping requirements so that local educational agencies will record information that States will have to compile. The information will therefore be readily available.

F. Warnings and Notification

Pursuant to § 763.6, school officials must notify all employees who work in buildings which contain friable asbestos-containing meterials of the location of those materials. School officials must also provide them with information on methods to avoid or reduce exposures.

For this purpose EPA has compiled a "fact sheet" which school officials shall provide their employees. If the school building contains friable asbestos-containing material, school officials must retain in the files a verbatim copy of this guidance. School officials shall also post a "Notice to School Employees" in the faculty room and custodial office of each school. This notice will provide summary information to employees on the asbestos program and its results. EPA is making available on request through a toll free number (800–424–9065) a package of information on methods to reduce exposures. All interested persons and school officials are encouraged to solicit this information.

Finally, school officials must notify the parent-teacher association of each school of the results of inspections and sampling and analyses.

G. Enforcement

EPA considers compliance with this regulation an important first step in protecting school children and school employees from potentially harmful exposures to asbestos. Because of limited resources, EPA will conduct periodic spot checks on school districts and school to ensure compliance. EPA will concentrate its enforcement efforts on school districts for which information is not available in reports under the Asbestos School Hazard Detection and Control Act and on school which present the highest exposure potentials to children and employees, as determined by the amount of friable materials identified and the number of building occupants.

Section 15 of TSCA, 15 U.S.C. 2614, provides that the failure to comply with the requirements of a rule promulgated under section 6, of the failure to maintain records as required by rule, is unlawful. Section 16 TSCA provides that any person who violates section 15 shall be liable for a civil penalty up to $25,000, and in the case of knowing or willful violation, shall be subject in addition to fines up to $25,000 per day or imprisonment.

EPA intends to pursue a reasonable approach to enforcing this rule and will exercise discretion in bringing enforcement actions against schools and school districts. Where, however, EPA learns of willful violations which threaten the health of school children and school employees, it will vigorously pursue whatever enforcement actions will best remedy the problem.

H. Compliance

EPA has directed the requirements of this regulation to local educational agencies, as defined in section 763.3, and will hold the governing official of local educational agencies responsible for complying with this regulation. EPA recognizes that in most cases the governing officials will designate other school officials and school employees to conduct the inspections, sampling, and the other required actions. In many circumstances, State or county personnel will carry out these requirements in the context of State or county programs. EPA encourages local educational agencies to pursue any arrangements which provide the most efficient means of complying with this regulation, including participating in a county or State program which satisfies the requirements of the regulation. However, for the purposes of enforcement, EPA directs the requirements to the governing officials of local educational agencies and shall hold them responsible for compliance.

I. Exemptions

Section 763.10 of the rule exempts local educational agencies from the inspections, sampling and analysis requirements of the rule for any school in which these requirements have already been met. The purpose of these exemptions is to prevent duplication of activities conducted as part of EPA's TAP or other reasonable efforts to detect asbestos.

The rule does not require that a school be inspected if the local educational agency has conducted a previous visual inspection of all areas of the building. Similarly, in schools where one sample has been taken for each 5,000 square feet of each type of friable material found (i.e. samples taken from each of what the regulation defines as a "sampling area"), then the sampling requirement does not apply. Finally, if samples of friable materials have been analyzed by a method (PLM, XRD, or EM) capable of detecting all forms of asbestos in bulk materials, the local educational agency need not reanalyze samples. The local educational agency must keep records and notify employees, as required in §§ 763.6, and 763.7, for all schools.

The only substantial differences between the guidelines EPA issued under the TAP and the inspection, sampling and analysis requirements of the rule concern the number of samples taken and the selection of sampling locations. Under the TAP, EPA recommended that one "representative" sample be taken per 5,000 square feet of material. The rule requires 3 samples regardless of size of the area of friable materials and specifies that random samples be collected.

The difference in sample number would affect small sampling areas, for example, an area of less than 10,000 square feet in which only 2 samples were taken using the TAP guidance. For larger areas, an inspector following EPA guidance would have taken at least 3 samples, a number sufficient to characterize most friable materials. Although 1 or 2 samples do not provide a high degree of certainty that a material with 5% asbestos will be properly identified, analysis by PLM of 1 sample of high asbestos content materials can usually detect the asbestos. EPA concludes that this change in sample number will not affect the results of the great majority of sampling programs properly conducted under the TAP.

Finally, EPA does not require reanalysis of friable materials which were analyzed using Electron Microscopy. The EM method can detect asbestos in bulk materials and a number of local educational agencies have used the method to analyze their samples.

EPA, when it undertook the TAP, assured schools that they would not have to duplicate programs under a later regulation in order to encourage them to participate in the program and reduce asbestos exposures well in advance of regulation. EPA believes that exempting schools who participated in the TAP from the duplicative components of the later regulation will not place school occupants at unnecessary risk because full compliance with the guidance

provided through the TAP will have identified friable asbestos-containing material.

EPA also realizes it would be unfair to require schools who participated in the TAP to repeat sampling and analysis when those schools relied on EPA assurance that they would not have to duplicate their efforts. EPA will not require schools who can prove full compliance with the TAP to undertake additional sampling. However, school inspections which relied on a review of the building records, air sampling, or any other techniques other than bulk sampling which are not in accordance with the TAP guidance do not constitute compliance. Schools which were inadequately inspected must be inspected again in accordance with this regulation.

EPA, nevertheless, will require that all schools, regardless of their participation in the TAP, comply with the recordkeeping and employee notification requirements of the regulation. These two requirements provide the means for reducing exposures during the first stage of the school regulatory program and are important additions to the TAP.

V. Miscellaneous Issues

EPA has received fifty comments in response to its Advance Notice of Proposed Rulemaking for Asbestos-Containing Materials in Schools (ANPRM) of September 20, 1979 from Federal and State agencies responsible for education, local governments, industry representatives, associations of school professionals, and private organizations. This part reviews the public comments and discusses the major issues raised by this rulemaking.

A. EPA's Technical Assistance Program (TAP)

Eight parties discussed EPA's TAP. All eight comments supported the program. Two comments suggested that regulation under section 6 is not necessary because school districts, either independently or in conjunction with a State program, have already addressed their potential asbestos problems. Another comment noted that since response to the program was limited, EPA should issue a regulation to require schools to take corrective actions. Two maintained, however, that schools had neither the time nor the money to complete the program, and three more encouraged EPA to reemphasize the TAP and follow up on its earlier efforts.

While a precise accounting of the number of schools which have been inspected for friable asbestos-containing materials is not available, projections made from information provided by well documented State and municipal asbestos programs and from results of the TAP indicate that approximately 9% of schools contain friable asbestos-containing materials. This number totals approximately 10,300 public and private schools. Based on these reports, EPA estimates that up to 40% of these schools have not been properly inspected for friable asbestos-containing materials.

EPA disagrees with comments which suggest that given more time, additional school districts will participate in the TAP. Because of the relative ease of complying with the inspection and sampling procedures in the Guidance Document and the simplicity of the reporting questionnaire, most schools which intend to participate in the TAP probably have done so. EPA believes that providing additional time for compliance with the TAP will not result in a significant increase in participation.

B. Air Sampling

Many comments address the reliability of air sampling as a method to determine if asbestos is present in a building area and, if so, if it presents an exposure problem. EPA has determined that air sampling is an inappropriate test to determine if an asbestos exposure problem exists in school buildings.

Air sampling is a method of counting fibers suspended in the air. It involves pumping a known volume of air through a filter and counting the number of fibers collected on the filter. Air sampling is an unreliable method to assess potential exposures because it measures only the level of fiber concentration at the time the sample was taken, and does not locate the asbestos-containing materials.

Locating the friable asbestos-containing materials is necessary to assess the probability and severity of peak exposures. The level of activity within the vicinity of the material, the accessibility of the material, the condition of the material, and its asbestos content are important factors in evaluating the probability and severity of peak exposures. Locating the materials is a prerequisite to evaluating these factors. Furthermore, once the location of the friable asbestos-containing materials is known, responsible officials will be able to reduce the probability of peak exposures by controlling the activities in areas which contain friable asbestos-containing materials.

Finally, abatement actions frequently involve the encapsulation or removal of the friable asbestos-containing material. Locating the material is thus a necessary prerequisite to final abatement.

C. Inspection and Sampling

Section 763.3 requires local educational agencies to inspect all school buildings to identify friable materials and sections 763.4 and 763.5 require local school officials to determine by sampling and analysis whether such materials contain asbestos. Twenty-two of the parties commenting on the ANPRM discussed these requirements. Eleven of those commenting disagreed that school officials should be made responsible for inspection and sampling. Although one pointed out that school officials are "in the best position to take samples," another six argued that school officials would not do the job effectively or stated that they should not, as a matter of policy, be required to sample. These parties reasoned that school officials might have budgetary or legal interests which would discourage them from identifying hazards, and that schools simply do not have the personnel to inspect and sample.

Several of the fifty comments suggested that EPA should make other parties responsible for these requirements. Two suggested that disinterested government officials might do the job most effectively and three asked that requirements not be imposed on manufacturers and processors of asbestos and asbestos-containing materials. Four argued that, in general, EPA should avoid creating conflicts of interests for school officials in its rulemaking.

EPA has determined, however, that officials of local educational agencies should be responsible for inspecting and sampling friable materials in schools. these officials are in positions where they can carry out such responsibilities. They are already physically located in school districts, are responsible for maintaining the school buildings, and are most familiar with them. They could, therefore, most easily supervise the location of friable materials in the school buildings at the least cost. The complexities, expense, and delays which would result from any program to provide direct Federal inspection services could be very high. Furthermore, EPA does not believe it is creating a major conflict of interest by making school officials responsible since these people are already responsible for the welfare of children and employees.

Six commentors suggested that EPA train inspectors to inspect schools and sample friable materials since without

such training, school personnel would lack the skills to inspect and sample.

EPA recognizes the need for instruction, and has developed a guidance package designed for use by laymen which contains easily understood descriptions of the step by step procedures. EPA has mailed copies of this guidance package to all school districts within the United States, and maintains two toll-free numbers to provide further information. The first number (1–800–424–9065) is to provide general information on asbestos and copies of the guidance package, while the second (1–800–334–8571, extension 6892) provides technical advice on the anlytic protocols and information concerning available laboratory facilities. EPA has determined that these sources of information should be sufficient to enable school officials to fulfill the requirements of the regulation.

D. Sampling Procedures

Several comments concerned sampling procedures. Two comments requested EPA to develop methods to ensure the reliability and reproducibility of sampling, and two requested that EPA issue a specific sampling procedure.

EPA is making available a document titled "Asbestos Analytical Programs" which suggests a procedure to select sample sites randomly in order to help assure that sampling will yield accurate results. This document also contains information on selection and monitoring of laboratories and resolution of analytical problems.

E. Analysis

Eighteen comments concerned the analysis of bulk samples of friable materials. These comments all related to the unreliability of laboratory analysis for asbestos because of the lack of specific testing protocols (eight comments), the inadequacies of existing methods of analysis (eight comments), the lack of EPA monitoring of laboratory performance, or the lack of an EPA quality assurance program.

EPA has addressed these analytical problems by preparing and publishing two interim testing protocols for polarized light microscopy (PLM) and X-ray diffraction (XRD), and by continuing to operate a program to assist and monitor a list of analytical laboratories. In addition, EPA operates a toll-free assistance number (800–334–8571, extension 6892) through which school districts can receive up-to-date information on analysis, including a list of laboratories which participate in the EPA program.

The protocols for PLM and XRD were developed as the result of a workshop on analytical methods for asbestos. Workshop participants, including many of the nation's leading petrographic microscopists, have also reviewed the subsequent draft protocols. The interim method is a technique for reliable, quantification of the relative areas occupied by asbestos fiber and non-asbestos matrix within the microscope's field of view. Its application is less variable between laboratories than subjective techniques of visual estimation.

EPA has distributed these protocols to analytical laboratories for their comment and for use in analyzing a series of well-characterized samples which EPA has also prepared. As laboratories become more proficient in the use of the protocols, EPA will determine the accuracy with which they can estimate the percentage of asbestos in samples. The results of these checks can be obtained by calling 800 334–8571, ext. 6892.

It should be noted that a protocol for analysis of friable materials using the electron microscope has existed for a number of years. This method, especially if assisted by XRD, can yield specific and accurate fiber identification. However, extrapolation of precise electron microscope data to significant bulk sample information is both inefficient and expensive. EPA therefore will accept the results of proper EM analysis, the techniques for which are well established, but, because of cost and the lack of available EM facilities, EPA recommends the use of PLM, supplemented by XRD.

F. Warnings and Notification

Seven parties commented on possible methods to notify people in school buildings of potential exposures to asbestos. All seven claimed that marking the friable asbestos-containing materials with warnings such as "HAZARDOUS" would unduly excite people, and urged EPA to avoid using alarming notices. Two comments suggested that EPA require schools to maintain a file on the asbestos material.

EPA has determined that the recordkeeping and notification requirements in the regulation constitute the best method to protect against the risks of exposures by providing clear and adequate warnings to custodians and other school employees.

G. Public Comment Period

EPA has decided to provide a thirty day comment period for this proposed rule in order to proceed with the rulemaking as expeditiously as possible. EPA believes this decision will not deprive the public of sufficient opportunity to comment, and emphasizes that, in fact, the public has had ample prior actual notice of the requirements of the regulation.

EPA has distributed the guidance manuals for the TAP to school districts and States nationwide. These guidance manuals contain procedures for identifying friable asbestos-containing materials which are for all practical purposes identical to the requirements in the regulation.

In conducting the TAP and in preparing this regulation, EPA has engaged in a broad based effort to gather information and exchange views on the issues relating to the TAP and the regulation. Experts in the field of asbestos abatement, the many States which have developed their own expertise in alleviating asbestos problems in schools, and many schools and school districts have all commented and have contributed their expertise to the rulemaking.

Moreover, the regulation itself is relatively simple and free of underlying complex technical issues which would increase the need for extended prior examination and critique. The few outstanding issues which do exist have received extensive review by many of the schools which have sampled and analyzed for asbestos.

Finally, the ANPRM published in the Federal Register of September 20, 1979 issue (44 FR 54676) provided detailed notice of the terms and substance of the proposed rule and description of the subjects and issues involved in it.

VI. Public Hearings

EPA intends to commence an informal public hearing on this proposal at 9:00 a.m. E.S.T. on November 17, 1980. EPA will conduct this hearing pursuant to section 6(c) (2) and (3), and 40 CFR Part 750 entitled Procedures for Rulemaking under section 6 of the Toxic Substances Control Act. Persons who may wish to participate in this hearing should consult these procedures.

Reply comments may be submitted up to 2 weeks after the close of all informal hearings and shall be restricted to comments on: (1) other comments; (2) material in the hearing record; and (3) material which was not and could not reasonably have been available to the commenting party a sufficient time before main comments were due.

VII. Rulemaking Record

EPA has established a Public Record for this rulemaking (docket number OPTS 61004) which along with a complete index is available for

inspection in the OPTS reading room from 8 a.m. to 4 p.m., Monday through Friday, excluding legal holidays, at 401 M Street SW., Washington, D.C. This record contains the basic information considered by EPA in this rulemaking, and includes all findings and statements required by sections 6 (a), (c), and (d), all written submissions of interested persons, and any other information which the Administrator considers relevant to this rule. The rulemaking record incorporates the record on petitions (OTS Docket No. 060004), sections A through E below:

A. Petitions

1. State of New Jersey, Office of the Governor 09/18/78. ## Petition, with exhibits:

a. Stanton, Mearl F. et al. "Biological Effects of Asbestos; Some Aetiologic Considerations of Fiber Carcinogenesis" *Laboratory of Pathology, National Cancer Institute.* (Oct. 2, 1972).

b. Stanton, Mearl F. et al. "Carcinogenicity of Fibrous Glass: Pleural Response in the Rat in Relation to Fiber Dimension." *Journal of the National Cancer Institute,* 58(3): 587–603. (March 1977).

c. McDonald, J. Corbett et al. "Mortality in the Chrysotile Asbestos Mines and Mills of Quebec." *Arch Environ Health,* 22: 677–685. (June 1971).

d. Whitwell, F. et al. "Relationship Between Occupations and Asbestos-Fiber Content of the Lungs in Patients with Pleural Mesothelioma, Lung Cancer, and Other Diseases." *Thorax,* 32: 377–386. (1977).

e. Hammond, E. C. et al. "Mortality Experience of Residents in the Neighborhood of an Asbestos Plant." *Science Week.* (June 21–30, 1978).

2. Environmental Defense Fund "Petition to the Environmental Protection Agency to Control Asbestos Emissions from Sprayed-On Materials Which Have Been Applied in Public School Buildings for Insulation, Fireproofing, Decorative or Other Purposes." (December 21, 1978).

a. Complaint. *Environmental Defense Fund, Inc.* v. *D. M. Costle et al.* and *United States Environmental Protection Agency.* U.S. District Court, District of Columbia (Civ. Action No. 79–1360).

b. Motion to dismiss.

c. Proposed order.

d. Memorandum of points and authorities in support of defendants' motion to dismiss.

e. Certificate of service—(07/17/79).

f. Reply to EDF's opposition to EPA's motion to dismiss.

g. Response to plaintiff's motion for extension of time.

h. Stipulation of facts and voluntary dismissal.

B. Federal Register Notices Pertaining to Petitions

3. 44 FR 4009. USEPA. "Sprayed-Asbestos in Schools Petition Request for Comments." (Submitted by the Environmental Defense Fund). (January 19, 1979).

4. 44 FR 17790. USEPA "Asbestos-Containing Materials in School Buildings. School Asbestos Program." (March 23, 1979).

5. 44 FR 20290. USEPA "Toxic Substance Control Act: Sprayed Asbestos in Schools, Denial of Citizens Petition." [In reference to petition submitted by the Environmental Defense Fund.], with exhibits: (April 4, 1979).

(1) Levin, Dan. "Asbestos in Schools: Walls and Halls of Trouble." *The American School Board Journal.* 165 (11): 1529–33. (November 1978).

(2) USEPA, OAQPS. *Sprayed Asbestos-Containing Materials in Buildings: A Guidance Document.* (March 1978). EPA 450/2–78–014.

(3) USEPA, Office of Toxic Substances *Tentative Schedule for Regional Training. (March 20, 1979).*

(4) Letter from Lloyd F. Novick, M.D., Commissioner Vermont State Health Dept. to Steven D. Jellinek, Assistant Administrator, Office of Toxic Substances, USEPA, dated (February 26, 1979).

6. 44 FR 27257, May 9, 1979. USEPA "Asbestos in Buildings; Denial of Petition." [In reference to petition submitted by the Office of the Governor, State of New Jersey]

C. Public Comments on Petitions

1. EPA received 12 comments on petitions.

D. Other Federal Register Notices Pertaining to Petitions

1. 44 FR 17790, (March 23, 1979). USEPA "Asbestos-Containing Materials in School Buildings: Notice Announcing Program."

E. USEPA News Releases on Petitions and Program

1. Transcript of Proceedings: *Press Conference* announcing program to prevent exposure of children to hazardous asbestos-containing materials in schools by Douglas Costle, Administrator, Steven D. Jellinek, Assistant Administrator, Office of Pesticides and Toxic Substances, and John DeKany, Deputy Assistant Administrator, Office of Pesticides and Toxic Substances. (March 16, 1979).

2. Correspondence

(1) USEPA, AX, Letter from Douglas M. Costle to the Honorable Brendan T. Byrne, Governor of the State of New Jersey in response to letter of September 18, 1978 requesting EPA to regulate asbestos contaminated buildings throughout the United States. (February 2, 1979).

(2) USEPA, AX, Letter from Douglas M. Costle to Robert J. Rauch, Staff Attorney, Environmental Defense Fund in response to EDF's Petition to Regulate Asbestos in Public Schools. (March 21, 1979).

(3) USEPA, OPTS. Letter from Steven D. Jellinek, Assistant Administrator, OPTS, USEPA to the Honorable Brendan T. Byrne, Governor of New Jersey, describing the EPA's Voluntary State Program. (February 23, 1979).

In addition, the rulemaking record also contains, under OPTS Docket No. 61004, the following:

F. Federal Register Notices Pertaining to Rulemaking

1. 44 FR 40900, (July 13, 197ᵹ). USEPA. "Toxic Substance Control Act; Grant of Petitions to Initiate Rulemaking Proceedings to Regulate Sprayed-Asbestos in Schools."

2. FR 54676, (September 20, 1979). USEPA "Asbestos-Containing Materials in School Buildings; Advance Notice of Proposed Rulemaking".

G. Support Documents

1. USEPA, OPTS, OTE. *Technical Support Document for Regulatory Action (TSCA: Section 6(a) Against Friable Asbestos-Containing Materials in School Buildings.* (August 1980).

2. USEPA, OPTS, CAD. *Economic Analysis Support Document for Proposed Identification and Notification Rule on Asbestos-Containing Materials in Schools.* Arthur Young and Company, Washington, D.C. (September 1980).

H. Public Comments Before Proposal

1. Among public comments received prior to proposal were 59 comments on the ANPRM.

I. Communications

1. Intergovernmental memoranda, letters and other correspondence, including:

a. USEPA, OPTS, CAD. Memo from Larry Longanecker to the File. Subject: Telephone Conversation with D. Gardner, Council of Educational Facilities Planning International, Columbus, Ohio. (April 1, 1980).

b. USEPA, OPTS, SAD. Memo from R. Levy, DOB. To: H Teitelbaum, CREBr., Assessment Div., OPTS, USEPA. Subject: "Comparison of Building

Asbestos Levels Grouped by Surface Materials." (May 22, 1980).

c. Selikoff IJ. Memorandum from IJ Selikoff, ESL, Mount Sinai School of Medicine, City of New York, New York. To National Institute of Environmental Health Sciences, Research Triangle Park, N.C. "Subject: Asbestos Associated Disease in U.S. Shipyards." (1977).

d. USEPA, OPTS, CAD. Memo from Larry Longanecker to the File. Subject: Montgomery County Ohio Field Test of Sampling Guidance for Asbestos in Schools. (August 21, 1980).

2. Other letters.

J. Other Federal Register Notices

1. *38 FR 8820.* USEPA. "National Emission Standards for Hazardous Air Pollutants; Asbestos, Beryllium, and Mercury." (April 6, 1973).

2. *40 FR 48292.* USEPA. "National Emission Standards for Hazardous Air Pollutants; Amendments to Standards for Asbestos and Mercury. (October 14, 1975).

3. *41 FR 11504.* USDOL, OSHA. "Occupational Safety and Health Standards, Standard for Exposure to Asbestos." (March 19, 1976).

4. *43 FR 26372.* USEPA. "National Emission Standards for Hazardous Air Pollutants; Amendments to Asbestos Standards." (June 19, 1978).

5. *44 FR 39858.* USCPSC, USEPA, USDHEW, and USDA. "Scientific Bases for Identification of Potential Carcinogens and Estimation of Risks" Action: Request for Public Comment on Scientific Report. (July 6, 1979).

6. *44 FR 56626.* USEPA. "Asbestos: Ambient Water Quality Criteria." (October 1, 1979).

7. *44 FR 60038.* US Regulatory Council. "Statement on Regulation of Chemical Carcinogens; Policy and Request for Public Comments." (October 17, 1979).

8. *45 FR 5001.* USDOL. "Identification, Classification, and Regulation of Potential Occupational Carcinogens." (January 22, 1980).

K. USEPA News Releases

1. USEPA, Office of the Administrator *Problems of health Hazards of Asbestos in School Buildings.* (January 29, 1979).

L. Reports

1. Anderson HA, Lilis R, Daum SM, et. al. "Household-contract Asbestos Neoplastic Risk." *Ann NY Acad Sci.* 271 (1976): 311–323.

2. Anderson HA, Lilis R, Daum S, Selikoff IJ. "Asbestosis Among Household Contacts of Asbestos Factory Workers." *Ann NY Acad Sci.* 330 (1979): 387–399.

3. Arul KJ, Holt PF. "Mesothelioma Possibly Due to Environmental Exposure to Asbestos in Childhood." *Int Arch Occup Environ Health.* 40 (1977): 141–143.

4. Ashcroft T, Heppleston AG. "Mesothelioma and Asbestos on Tyneside: a Pathological and Social Study." In Shapiro HA, ed. *Pneumoconiosis: Proceedings of the International Conference, Johannesburg, 1969.* (1970) Capetown: Oxford University Press.

5. Awad L. DiMenza L, Lazar P, et. al. "An Attempt to Determine a Medium-Term Low-dose Exposure Indicator Based on Clinical and Radiological Lung Modifications: Paper Presented At The Symposium On The Biological Effects Of Mineral Fibres Held September 25–27 1979." Sponsored by WHO, IARC, Lyon, France.

6. Bailar JC, Ederer F. "Significance Factors for the Ratio of a Poison Variable to its Expectation." *Biometrics.* 20 (1964): 639–643.

7. Barnes R. "Asbestos Spraying, an Occupational and Environmental Hazard." *Med J Aust.* 2 (1976): 599–602.

8. Barratt RS. "Ambient Asbestos Levels in Perspective." *Roy Soc Hea.* 98:5 (1978): 25, 26, 49.

9. Baselga-Monte M, Segarra, F. "Epidemiological Study of Asbestosis in the Barcelona Area: A Dose-Response Relationship." *Instituto Territorial del Servicio Social de Higiene y Seguridad del Trabozo.* Plaza Eusebio Guell Barcelo, Spain.

10. Becklake MR. "Asbestos-Related Diseases of the Lung and other Organs: Their Epidemiology and Implications for Clinical Practice." *Am Rev Respir Dis.* 114 (1976): 187–227.

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12. Becklake MR, Liddell FDK, Manfreda J, McDonald JC. "Radiological Changes After Withdrawal From Asbestos Exposure." *BR J Ind Med.* 36 (1979): 23–28.

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19. Bradfield REN. *Asbestos: Review of Uses, Health Effects, Measurements and Control.* (January 1977). Atkins Research and Development, England. [pp25]

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26. City of New York, Board of Education, Division of School Buildings. *Asbestos-Abatement/Control Guidance Manual.* (April 30, 1979).

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Dated: September 11, 1980.

Douglas M. Costle,

Administrator.

Therefore, it is proposed to amend Chapter I of Title 40 of the Code of Federal Regulations by adding a new Part 763 consisting at this time of Subpart F to read as follows:

PART 763—ASBESTOS

* * * * *

Subpart F—Friable Asbestos-Containing Materials In Schools

Sec.

763.1 Scope and purpose.
763.2 Definitions.
763.3 Inspection for friable material.
763.4 Sampling friable materials.
763.5 Analyzing friable materials.
763.6 Warnings and notification.
763.7 Recordkeeping.
763.8 Optional recording form for schools.
763.9 Compliance.
763.10 Exemptions.

Authority: Sec. 6 of the Toxic Substances Control Act, Pub. L. 94–469, 90 Stat. 2020 (15 U.S.C. 2605)

Subpart F—Friable Asbestos-Containing Materials in Schools

§ 763.1 Scope and purpose.

This rule requires local educational agencies to identify friable asbestos-containing material in public and private schools by visually inspecting school buildings for friable materials, sampling such materials, and having samples analyzed by appropriate techniques referenced in the rule. In addition, the rule requires local educational agencies to post a notice of the results of inspections and analyses. The rule requires local educational agencies to provide school employees of any school with friable asbestos-containing material with warnings on the health effects of asbestos and instructions on methods to avoid or reduce exposure. The rule also includes recordkeeping requirements.

§ 763.2 Definitions.

For the purposes of this part:

(a) "Act" means the Toxic Substances Control Act, 15 U.S.C. 2601, et seq.

(b) "Asbestos" means:

(1) Chrysotile, amosite, or crocidolite; or

(2) In fibrous form, tremolite, anthophyllite, or actinolite.

(c) "Asbestos-containing material" means any material which contains more than 1 percent asbestos by weight.

(d) "Friable material" means any material applied onto ceilings, walls, structural members, piping, ductwork, or any other part of the building structure which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.

(e) "Local educational agency" means:

(1) Any local educational agency as defined in section 198(a)(10) of the Elementary and Secondary Education Act of 1965; and

(2) The governing authority of any nonprofit elementary or secondary school, where the term "nonprofit" means owned and operated by one or more nonprofit corporations or associations no part of the net earnings of which insures, or may lawfully inure, to the benefit of any private shareholder or individual.

(f) "Sampling area" means any area, whether contiguous or not, within a school building which contains friable material that is homogeneous in texture and appearance.

(g) "School" means any public or private day or residential school that provides elementary or secondary education for grade 12 or under as determined under State law, or any school of any Agency of the United States.

(h) "School buildings" means:

(1) Structures used for the instruction of school children, including classrooms, laboratories, libraries, and research and administrative facilities.

(2) School eating facilities, and school kitchens.

(3) Gymnasiums or other facilities used for athletic or recreational activities, or for courses in physical education.

(4) Dormitories or other living areas of residential schools.

(5) Maintenance, storage, or utility facilities essential to the operation of the facilities described in subparagraphs 1 through 4 of this paragraph.

(i) "Use of asbestos" means the presence of asbestos-containing material in school buildings.

§ 763.3 Inspection for friable material.

Local educational agencies shall visually inspect each school building under their authority to locate all friable materials. This inspection shall include surfaces behind suspended ceilings or other non-permanent structures which may be intered during normal building maintenance or repairs. For further information on inspection procedures, officials should consult Chapter 4 "Asbestos-Containing Materials in School Buildings: A Guidance Document," Part 1, (EPA no. C00090) which is incorporated by reference. Copies of the document can be obtained by calling 800–424–9065 (in Washington, D.C. call 554–1404). The document is also available for inspection at the Office of the Federal Register Library, room 8301, 1100 L Street, N.W., Washington, D.C. 20408

§ 763.4 Sampling friable materials.

If friable materials are found in a school building, local educational agencies shall:

(a) Identify each distinct sampling area of friable materials within the school building.

(b) Take at least three samples from locations distributed throughout the sampling area. Sampling locations should not be selected for convenience (ease of reaching the sample) or because the sampler judges the location to be representative. Samples shall be taken using small sealable containers; samples shall penetrate the depth of the friable material to the substrate.

(c) Label each sample container with a sample identification number unique to the sampling location and building. Officials should consult "Asbestos-Containing Materials in School Buildings: A Guidance Document," Part 1, Chapter 5, for further information on sampling procedures. The requirement that 3 samples be taken in each sampling area supersedes the recommendation made in the Guidance Document to take 1 sample per 5,000 square feet of friable material.

§ 763.5 Analyzing friable materials.

Local educational agencies shall have all samples of friable material analyzed for asbestos using Polarized Light Microscopy (PLM), supplemented where necessary by X-ray Diffraction, in accordance with "Interim Method for the Determination of Asbestiform Minerals in Bulk Insulation Samples" which is incorporated by reference. Persons interested in analyzing bulk samples for asbestos can obtain copies of the document by calling 800–424–9065 (in Washington, D.C. call 554–1404). The document is also available for inspection at the Office of the Federal Register library, Room 8301, 1100 L Street, N. W., Washington, D.C. 20408. A list of laboratories capable of conducting analyses of friable materials can be obtained by calling 800–334–8571, extension 6741. Officials should consult "Asbestos-Containing Materials in School Buildings: A Guidance Document," Part 1, Chapter 6, for further information on analysis of friable materials.

§ 763.6 Warning and notifications.

(a) Local educational agencies shall post in the primary administrative and custodial offices and in the faculty common rooms of each school under their authority a completed copy of the following Notice to School Employees. If no friable asbestos-containing material is present in the school, the notice shall remain posted for one year. The notice shall remain posted in any school which has friable asbestos-containing material.

BILLING CODE 6560-01-M

NOTICE TO SCHOOL EMPLOYEES

In accordance with EPA regulations, this school has been inspected for friable (easily crumbled) materials which contain asbestos. Friable asbestos-containing material may cause health problems.

Friable asbestos-containing material is

|_| present |_| not present

in _____ [name of school].

A record of the inspection, a diagram of the location(s) of friable asbestos-containing materials, and a copy of relevant EPA regulations are available in building _____, room _____.

For further information, interested persons should call 800-424-9065 (554-1404 in Washington, D.C.)

Signed,

_____ [name]

_____ [title]

BILLING CODE 6560-01-C

(b) Local educational agencies shall provide to all persons employed in school buildings under their authority which contain friable asbestos-containing materials (1) written notice of the location, by room or building area, of all friable asbestos-containing materials in the school, and (2) the following information on interim procedures to reduce exposures, "A Guide for Reducing Asbestos Exposure."

BILLING CODE 6560-01-M

A Guide for Reducing Asbestos Exposure

Purpose

Your school building contains materials which contain asbestos and may release fibers into the air. Breathing asbestos fibers is dangerous. This fact sheet tells how to reduce exposure to asbestos fibers. Please read it carefully.

Protecting Yourself from Asbestos

Some of the friable building materials in your school contain asbestos. Friable asbestos-containing materials crumble easily and release fibers into the air. Breathing these fibers may cause cancer and other diseases. The more asbestos you breathe, the greater your chances are of getting disease.

Find out from your supervisor where these friable asbestos-containing materials are in your building. Do not touch or disturb them unless you have to. If you must handle an asbestos-containing material, first lightly spray it with water. Wet asbestos-containing materials will not release as many fibers.

Even if friable asbestos-containing materials are not disturbed they may release asbestos fibers, which will fall slowly to the floor. If you are cleaning in areas which contain these materials, do not use a broom: it will stir the fibers into the air. Do not use a vacuum cleaner unless it is equipped with a High Efficiency Particulate Absolute filter. The fibers are so small they can pass through an ordinary vacuum cleaner and out into the room.

When cleaning in areas which contain friable asbestos-containing materials, use dampened mops and dustcloths. Dampened mops and dustcloths will hold the fibers much better than dry mops and dustcloths, and will reduce the number of fibers put back into the

air. It is best to use mops with disposable heads and to throw away the mop head after use. Otherwise fibers will be released as the mop dries. Use either lightly dampened mops or cloths or a vacuum with a High Efficiency Particulate Absolute filter to clean areas where wet mopping can't be used (such as carpetting or hardwood floors).

Clean tables and chairs in the area, with damp cloths. Do not dust them with brushes or with dry cloths, and do not vacuum them. After you use the cloths, put them in a plastic bag while they are still wet and dispose of them properly.

A List of Important Points to Remember

1. Do not handle or disturb friable asbestos-containing materials unless necessary.
2. If you must handle asbestos-containing materials, wet them first.
3. If you must disturb asbestos (for example, to repair a light), see your supervisor before starting work. Then:
   a. Place a plastic dropcloth below the work area.
   b. Spray asbestos-containing material with water before you disturb it.
   c. Make sure that only those persons who are necessary for the job are in the area.
   d. Put all the asbestos you remove into a heavy plastic bag. Seal the bag and discard it.
   e. After the job, clean all the ladders and tools you used with a wet cloth.
   f. Roll up the dropcloth carefully and put it in a plastic bag. Discard the bag.
   g. Clean the floor below the work area with a wet mop.
   h. Discard the mop head and the cloth used to clean the ladders while they are still wet.
4. If you must disturb or remove large sections of asbestos-containing material, see your supervisor before you begin. The National Institute for Occupational Safety and Health recommends that a respirator approved for toxic dusts be worn during such work.

BILLING CODE 6560-01-C

(c) Local educational agencies shall provide notice of the results of inspections of each school to the appropriate parent-teacher association of that school.

§ 763.7 Recordkeeping.

(a) Local educational agencies shall compile and maintain in the administrative office of each school under their authority a record which shall include:

(1) The name and address of the school.

(2) A list of all school buildings associated with the school, indicating whether each building has been inspected for friable materials in compliance with § 763.3, and which buildings contain friable materials.

(3) Copies of the Notice to School Employees, found in § 763.6(a).

(4) For each school building which contains friable materials:

(i) A blueprint, diagram, or written description of the building which identifies clearly the location(s) and approximate area(s) in square feet of each sampling area of such material(s), the locations at which samples were taken, and the identification number of each sample, and shows or describes clearly whether each sampling area of friable material contains asbestos, including an estimate of its percent asbestos content as determined by calculating the average of the percent asbestos contents of all samples taken in that area.

(ii) A copy of all laboratory reports and all correspondence with laboratories concerning the analyses of samples taken in accordance with § 763.4.

(5) If the school contains friable asbestos-containing materials, copies of the "Guide for Reducing Asbestos Exposure" contained in § 763.6(b), and one copy of "Asbestos-Containing Materials in School Buildings: A Guidance Document," Parts 1 and 2 (EPA No. C00090), which can be obtained by calling 800–424–9065.

(6) A statement signed by the person responsible for compliance with the rule that the requirements of the rule have been satisfied. The statement shall include the date and the person's name and title.

(b) Each local educational agency shall retain in the administrative office of the agency:

(1) A list of all schools under their authority, indicating whether schools were inspected in accordance with § 763.3, and which schools contain friable materials.

(2) A record of the friable materials in schools which were sampled and analyzed in accordance with § 763.4 and 763.5, indicating which materials contain asbestos.

(3) For each school which contains friable asbestos-containing materials, the total area of such materials in square feet, and the total number of school employees who regularly work in the school.

(c) *Form.* Each local educational agency shall complete and retain in the administrative office of the local educational agency the following form, "Inspections for Friable Asbestos-Containing Materials":

BILLING CODE 6560-01-M

Inspections for Friable Asbestos-Containing Materials

1. Please provide the following information about the local educational agency:
   Name_____
   City_____ County_____
   State_____ Zip Code_____

Fill in the following information about the schools under the authority of this local educational agency:

2. The number of schools which have been inspected for friable materials in accordance with section 763.3 of volume 40 of the Code of Federal Regulations.

   |_____|

3. The number of schools where friable materials are present.

   |_____|

If the answer to question 3 is none, disregard questions 4-7 and go on to the certification. Otherwise, fill in the following information about the schools enumerated in question 3:

4. The number of schools in which all friable materials have been sampled and analyzed in accordance with section 763.4 and section 763.5 of volume 40 of the Code of Federal Regulations.

   |_____|

5. The number of schools with friable material(s) that contain(s) asbestos.

   |_____|

If the answer to question 5 is none, disregard questions 6-7 and go on to the certification. Otherwise, fill in the following information about the schools enumerated in question 5.

6. The total area in square feet of all friable asbestos-containing materials found in these schools.

|_____|

7. The total number of school employees who regularly work in schools where friable asbestos-containing materials are present.

|_____|

Certification:

Please read and sign below the following statement:

I hereby certify that this local educational agency has complied with the EPA regulation 40 CFR §763.1-§763.10, "Asbestos-Containing Materials in Schools Identification and Notification," and that the information on this form is, to the best of my knowledge, true and complete.

Signed _____

Name _____

Title _____

Date _____

Additional forms can be obtained by calling 800-424-9065 (554-1404 in the Washington, D.C. area).

BILLING CODE 6560-01-C

§ 763.8 Optional recordkeeping form for schools.

(a) *Form.* Use of this form is optional. It does, however, provide a convenient means of complying with the recordkeeping requirements for schools contained in § 763.7(a) (1), (2), and (5), and of providing to the officials of the local education agency the information they need to complete the records required in § 763.7 (b) and (c).

BILLING CODE 6560-01-M

SCHOOL ASBESTOS IDENTIFICATION (Optional Form)

1. SCHOOL NAME	ADDRESS	
SCHOOL DISTRICT	CITY	
COUNTY	STATE	ZIP CODE

2. BUILDING	3. INSPECTED FOR FRIABLE MATERIAL		4. FRIABLE MATERIAL PRESENT		5. SAMPLING AREAS	6. SAMPLED AND ANALYZED		7. PERCENT ASBESTOS	8. SQUARE FEET
	YES	NO	YES	NO		YES	NO		

(b) *Instructions.* If this form is used, a copy should be retained in the administrative office of the school along with the records required by § 763.7(a)(3), (4), (6), and (7).

1. Fill in the blanks as indicated on the form.

2. In column 2, list all the school buildings within the school.

3–4. In these columns, indicate (yes or no) whether each of these buildings:

3. was inspected in accordance with § 765.3;

4. contains friable material

If none of the buildings contains friable material, stop. Otherwise, to to the question 5.

5. For each building that contains friable materials, list in this column the location of each sampling area in the building.

6. In this column, indicate (yes or no) whether each of these sampling areas was sampled and analyzed in accordance with § 763.4 and § 763.5.

7. In this column show the percent asbestos content of each sampling area. Compute this figure by averaging the percent asbestos content of the samples taken from the sampling area. If the material in the sampling area contains no asbestos, write "0%".

If none of the sampling areas contains friable asbestos-containing material, stop. Otherwise, go on to question 8.

8. For each sampling area, list in this column the total area in square feet of friable asbestos-containing material.

§ 763.9 Compliance.

(a) Local educational agencies shall comply with this regulation by September 1, 1981.

(b) Actions undertaken by municipal or State officials on behalf of local educational agencies as a part of a municipal or State school asbestos program shall constitute compliance with this regulation to the extent that such actions conform to the requirements of this regulation.

(c) Section 15(1) of TSCA (15 U.S.C. 2614) makes it unlawful for any person to fail or refuse to comply with any rule promulgated or order issued under section 6 of TSCA. Thus, failure to comply with any aspect of this rule constitutes a violation as defined by section 15(1) of TSCA.

(d) Section 16(a) of TSCA (15 U.S.C. 2615) provides that any person who violates any provision of section 15 shall be liable to the United States for civil penalties. If a violation is knowing or willful, criminal penalties may also be assessed. Under section 17 of TSCA (15 U.S.C. 2616), the Agency may take injunctive action to restrain persons from violating section 6 rules.

§ 763.10 Exemptions.

(a) Sections 763.3, 763.4, and 763.5 shall not apply to schools in which, prior to the effective date of this rule, local educational agencies, or municipal or State agencies, acting on behalf of their local educational agencies, have:

(1) Visually inspected all areas of the school for friable materials;

(2) Sampled each type of friable material found in the school, as distinguished by different appearance or texture; and

(3) Had the sample(s) analyzed using Polarized Light Microscopy supplemented by X-ray Diffraction where necessary, or by Electron Microscopy.

(b) Sections 763.6, 763.7, and 763.9 shall apply to all local educational agencies.

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